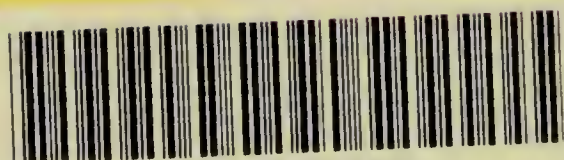


THE
FAMILY PHYSICIAN

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THE FAMILY PHYSICIAN.



SIR WILLIAM JENNER, BART., K.C.B., M.D., F.R.S.

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THE
FAMILY PHYSICIAN.

A Manual of Domestic Medicine, .

BY PHYSICIANS AND SURGEONS OF THE PRINCIPAL
LONDON HOSPITALS.

TO WHICH IS ADDED

THE LADIES' PHYSICIAN.

SUBSCRIPTION EDITION.

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the skin. This is more especially needful because from the vitiated state of the blood the sensations are blunted, and the patient may have a very bad throat without experiencing any pain or distress in that region. An occasional hurried respiration, or a little blueness of the lips or finger-nails, may, if looked for, call attention to the nature of the impending mischief. In general the temperature, as ascertained by the thermometer, rises rapidly at the onset of the disease, reaching 104° , or more, in the course of a few hours. So long as the inflammation of the skin continues to spread the temperature increases, and may attain 106° . Any sudden elevation of temperature is to be regarded as an indication of the spread of disease. During the period of convalescence, a sudden increase in the fever may be an accompaniment or the herald of a relapse. Such a relapse might possibly be temporarily overlooked were it not for the use of the thermometer, for the symptoms are often almost imperceptible to the patient, and they may occur in a situation not necessarily exposed to the eye of the physician. The fever, as measured by the thermometer, is very variable in duration, and the temperature, after having returned to the normal, may exhibit several re-elevations coincident with extensions of the inflammation. Usually the highest temperature is reached on the third day of the eruption, and the decline commences on the fifth or sixth day. In fatal cases death takes place with very high temperature.

The pulse is generally full, beating at the rate of from 100 to 120 in the minute. It may revert to its normal rate at the end of the third or fourth day of the eruption, not again to rise far above this, unless indeed there be a relapse, indicated by elevation of the temperature.

That form of erysipelas which attacks only the skin is much less dangerous than that which involves the deeper parts. Cases which occur in patients with an open wound are of much more serious import than those which originate spontaneously. The termination of the disease is also less likely to be favourable when it occurs in an epidemic form.

The disease is always more serious in old people and children than in young vigorous adults. The habits and health of the patient previous to the attack greatly influence the result. Erysipelas, like many other diseases, proves especially fatal to drunkards and those whose health has been undermined by excesses of any kind.

The extent of the inflammation is usually of not so much importance as the severity of the constitutional symptoms. When there is a rapid, weak pulse, with a dry, brown tongue, or low muttering delirium, with marked prostration of strength, the case is very serious, even though the local changes may be limited both in distribution and severity.

The occurrence of delirium, and especially of delirium at night, is of no great importance, but marked drowsiness alternating with delirium is a serious symptom. Sometimes the membranes of the brain become involved, but delirium is not of necessity an indication of the occurrence of this complication.

We now pass on to the consideration of the best methods of treating erysipelas. The attendance of a medical man is in all but the very slightest cases absolutely necessary. The patient should be confined to bed, and attention should be paid to

all those hygienic measures—such as good feeding, fresh air, and quiet—which will be found fully discussed under the head of FEVER.

In erysipelas lowering treatment is seldom or never admissible. The disease is essentially an exhausting disease, and tonic and supporting treatment is necessary. In some cases stimulants are required from the very first, and the indications for their employment are the same as those given whilst speaking of the treatment of fever generally. The strength may be supported by the administration of bark and ammonia (Pr. 13), or quinine (Pr. 9).

One of the most useful medicines in the treatment of these cases is the tincture of the perchloride of iron, or tincture of steel, as it is not unfrequently called. So marked is its action that it has been regarded by some as a specific for this disease. It is essential for its success that it should be given in large and frequently repeated doses. Ten and fifteen drop doses given three times a day do no good, and to obtain a favourable result it is absolutely necessary that it should be given in doses of forty minims or more every four hours. It may be conveniently taken in about a wine-glassful of water. The beneficial effects of the medicine are sometimes seen after the first or second dose; the local inflammation ceases to extend; the inflamed part becomes paler, less tender, and less swollen; the feeling of exhaustion is diminished; the pulse becomes less frequent; the temperature falls, and frequently a sound and refreshing sleep ensues. As soon as these changes are observed the dose of the medicine may be reduced. The iron treatment may be combined with the use of stimulants, if there are indications for their employment.

Aconite (Pr. 38) is of marked service in erysipelas. Administered quite at the commencement it often cuts short the attack; and even when in spite of it the disease continues, aconite will reduce the swelling and hardness, lessen the redness, and prevent the inflammation from spreading.

One of our most eminent authorities on treatment has recommended aconite in the following cases:—"In children, after vaccination, perhaps when the spots have nearly healed, an erysipelatous redness occasionally appears, spreading over the arm and a greater part of the trunk, usually ceasing in one part, then successively attacking contiguous parts, and leaving a yellow discolouration and desquamation. The redness is often intense, the tissues being very hard, painful, and shiny, and this inflammation may continue for weeks. It may run down the arm, involve the hand, and implicate the greater part of the chest; or it may appear in the leg, and gradually spread to the foot; or again, it may spread from the hand up to the arm, and once more down to the hand, and this may be repeated many times. Sometimes the inflammation terminates in small abscesses. In cases like these aconite generally at once arrests the inflammation; and even when it persists the redness is rendered less intense, and the swelling less hard and painful. The troublesome inflammation often arising after the vaccination of adults ordinarily yields to aconite, especially if supplemented by the local application twice daily of the belladonna ointment." In all these cases the aconite may be given in the form of the aconite mixture (Pr. 38), a tea-spoonful every ten minutes for the first hour, and subsequently hourly.

Belladonna certainly proves efficacious in many cases of erysipelas. It usually

does most good in the simpler forms where no vesicles or bladders have made their appearance on the surface. It is especially indicated when there is violent headache with thirst, constipation, or brownish-red thick urine. It is also useful when either delirium or lethargy is a prominent symptom. In the early stages of the disease it may be given alternately with aconite, first a dose of one and then of the other. It may be conveniently administered in the form of the belladonna mixture (Pr. 39), a tea-spoonful every quarter of an hour for the first hour, and subsequently hourly.

So much then for the internal remedies. We must now consider the best method of local treatment. It is very desirable to avoid exposing the affected part to variations of temperature, and with this view it may be lightly covered with dry cotton wool so as to protect it from draughts. Ointments and cooling lotions, by interrupting the natural functions of the skin, often do mischief.

A solution of nitrate of silver has been strongly recommended as a local application in erysipelas. The success of this mode of treatment depends entirely on the mode of conducting it. In the first place the skin of the affected part must be well washed with soap and water so as to remove greasy matters, then again with simple water, and then it must be wiped quite dry. Finally a solution of four scruples of the brittle stick of nitrate of silver in four drachms of water is to be applied twice or three times to the inflamed surface, extending for two or three inches in each direction beyond the margin.

Collodion is not unfrequently used as a local application in cases of erysipelas. It usually proves far less efficacious than the solution of nitrate of silver, and when painted over large surfaces it often not only fails to do good, but in consequence of its cracking and leaving rough edges, not unfrequently does positive harm.

EXPECTORATION.

Expectoration is merely a symptom, and is not in itself a disease. It seldom occurs except as an accompaniment of cough. The secretion of the lining membrane of the bronchial tubes in a perfectly healthy person is almost entirely destitute of matter to be expectorated. In the normal state, the secretion of the bronchial mucous membrane, though continually present, scarcely ever exists in superfluous quantity, for a certain proportion of it is carried off by exhalation or absorption. The moisture secreted by the lungs should contain nothing that the expired air cannot carry away in vapour, nothing that would leave any residuum which by its accumulation would at length require to be expectorated. A perfectly healthy person living in a pure atmosphere has no expectoration whatever. We say living in a pure atmosphere, for town-dwellers commonly hawk up a little black phlegm the first thing in the morning. This, consisting as it does chiefly of "blacks," is not to be considered as any indication of a departure from the normal condition of health. In disease there is a secretion of unhealthy mucus which cannot be got rid of in the usual way, and must be expectorated. Hence it is that persons in whom a chronic condition of congestion of the bronchial tubes has been generated by repeated colds have a secretion of superfluous matter always going on, and are

constantly expectorating. This may continue for years without causing much inconvenience, the principal annoyance from which the patient suffers being in getting up the phlegm in the morning. It is a remarkable fact that, though a person may cough violently in his sleep, he never expectorates.

An examination of the expectoration is useful not only in enabling us in many cases to determine the nature of the disease, but as affording many a useful hint for treatment. The sputa in pneumonia or inflammation of the lungs, for instance, is very characteristic. It is of a brick-dust colour, and is so viscid that the vessel in which it is contained may be inverted without spilling the contents. In bronchitis, you may get many different kinds of expectoration. If the patient do not expectorate till after a long fit of coughing, during which the air has been many times inspired and expired, and has thus become intimately mingled with the mucus contained in the air passages, the expectoration will contain numerous little air-bubbles, and will be very frothy. After a time the mucus loses by degrees its transparency, is mixed with masses or pellets that are opaque and of a yellow-white or greenish colour, and these masses, few at first, increase more and more in number until they constitute the whole of the sputa. Such expectoration as this is commonly marked by a remission in the symptoms. It will sometimes happen that the expectoration, having thus become opaque and parti-coloured, will go back again to its former condition of temporary stickiness and froth, and this is to be regarded as a sign of a return or extension of the complaint. By the character of the expectoration alone we are in the majority of cases enabled to distinguish between bronchitis and pneumonia. In one kind of bronchitis pieces are expelled which are complete casts of the bronchial tubes, and when spread out in water look like little trees. This complaint is known as "plastic" bronchitis. Many different kinds of expectoration are met with in consumption, but there is no form which to the naked eye can be regarded as a positive indication of the existence of that disease.

As we have said, the character of the expectoration may sometimes be employed as a guide to treatment. Thus, when there is profuse easy expectoration with nausea or vomiting, small doses of antimony wine are indicated. When it is tough and stringy and expelled with difficulty, bichromate of potash often does good. When loose and worse on lying down, pulsatilla may be given, especially in the case of women and children. Nitric acid is useful in old-standing cases, especially when the more active lung symptoms have subsided. Brown-coloured expectoration is considered by many to be an indication for the use of phosphorus. Sulphur is given when the mucus is yellow or white, and when there is any concomitant skin eruption. Arsenic is used when there is much debility and a tendency to asthma. Details as to the mode of administration of these medicines will be found under the head of COUGH and in other parts of this work.

EYE, DISEASES OF.

Black Eye.—A black eye is of such common occurrence that it needs little or no description. It is an effusion of blood beneath the skin of the lids and adjacent parts. The blood is absorbed in a week or ten days, the bruise presenting in

turn all the colours of the rainbow. The application of cold immediately after the receipt of the blow will stop the effusion of blood, and diminish the extent of the discoloration. A fold of soft lint dipped in cold water and laid on the eye will answer the purpose admirably, or we may use an evaporating lotion made by adding two and a half ounces of rectified spirit to half a pint of water. Small pieces of ice wrapped in india-rubber or oiled-silk answer well. From time immemorial, special virtues have been ascribed to raw beef-steak in the treatment of black eye, but on what grounds we do not know. Tincture of arnica is an admirable application. It may be painted round the eye with a small camel's-hair brush, or twenty drops of the tincture may be added to half a cupful of cold water, and used as a lotion. The arnica should be used as quickly after the receipt of the blow as possible. When the discoloration has already commenced we prefer a hamamelis lotion, made by adding one part of tincture of hamamelis to six parts of water. It should be applied on lint, and covered with oiled-silk. An infusion of rosemary is often used for the same purpose. A remedy employed by pugilists is a poultice of black bryony-root. It is made by mixing the root, scraped fine, with a little bread poultice; this is placed over the eye, and allowed to remain there for some hours. It has an excellent effect in removing the discoloration. The black bryony grows in hedges and thickets all over the country, but in London the root is not always easily obtained. Some of the large chemists keep it, whilst sometimes it may be met with in Covent Garden. In the absence of the root, the bread poultice might be mixed with tincture of bryony, which can be had from any chemist. It is often proposed to puncture the discoloured part and let out the blood, but this should never be done, for the blood is clotted, and would not flow out, and there would be risk of matter forming or erysipelas setting in. It is often supposed that prize-fighters have some special means of dispersing the signs of their recent encounters, but it does not appear that they use anything beyond the raw beef-steak and the bryony poultice. It must be remembered that these people are young and hardy and in good condition, so that naturally the processes of absorption and reparation are carried on quickly. Moreover, their exhibitions—their sparring matches and so on—are usually given by gaslight, when any discoloration would be easily overlooked. There are people called “artists in black eyes,” who, for a half-crown or five-shilling fee, in a few minutes, by the aid of a box of paints, remove all signs of injury. These gentlemen can be heard of by application to the inspector at the police station. Information on the subject will be found in Dickens's “Dictionary of London.”

Blows on the Eye may injure the sight, or even totally destroy it. People have been blinded before now by a cork flying from a soda-water bottle, and a lash from a whip may produce equally disastrous results. The exact nature of the injury could not be made out without a thorough examination, and skilled advice should be sought without delay. The injury may give rise to bleeding in the interior of the eye, to cataract, laceration of the parts, and other serious conditions, requiring careful watching and judicious treatment. Indirect injury to the eye sometimes results from blows or falls on the head.

Foreign Bodies in the Eye.—This subject will be found fully discussed in DOMESTIC SURGERY, and the directions there given should be followed. Sand,

flies, hairs, and similar bodies may usually be removed by bathing or syringing; but should this fail, the eye may be gently wiped towards the nose with a soft moistened handkerchief or with a feather. Coal-heavers, when they get dust in the eye, ask one of their mates to pass his tongue over the eye and the inner surface of the eyelid, and in this way the foreign body is removed. A good plan is to gently brush the eye with a camel's-hair brush moistened with oil or gum. Mortar or lime in the eye gives rise to great pain, and may permanently injure the sight. The eye should be thoroughly washed or syringed with a little weak vinegar and water, and the sooner this is done the better. Should much irritation continue after the removal of the foreign body, two or three leeches may be applied to the temple, and the eye should be bathed with tepid water, or a poppy fomentation may be used. A belladonna fomentation, made by dissolving sixty grains of extract of belladonna in a pint of boiling water, is also useful. Workers in places where splinters of metal, stone, or wood are liable to strike the eye should wear spectacles at their work with strong glass in them—not lenses. These common glass spectacles are also useful in railway travelling, as a protection against a spark or cinder flying in the eye.

When, in travelling, a bit of dust gets in the eye, it is best to remain quiet for a little, as the tears may wash it away; the flow of tears may be promoted from time to time by attempting to open the eye. Blowing the nose violently assists the operation. The head of a pin covered with the end of a pocket-handkerchief, and moistened with saliva, may be moved about between the eyeball and eyelid, and will detach the intruder if not too firmly fixed. Another plan is to get a fellow-traveller to raise the eyelid with his fingers, and then gently wipe the red mucons membrane with a moistened pocket-handkerchief, or remove the foreign body if he can see it. A little piece of paper twisted to a point is useful. A drop of olive oil or castor oil introduced into the eye will often allay pain and intolerance of light produced by a fine irritant, as sand.

A piece of percussion-cap penetrating the eye only too often means loss of sight. It is an accident that rarely occurs to sportsmen, but is not of uncommon occurrence at country fairs and such places, where people shoot at a mark for nuts or oranges. Children, too, are fond of exploding caps with a stone or hammer, and this is frequently the cause of a mishap. Should the eye be struck, an ophthalmic surgeon should be consulted without delay, or not only may the injured eye be lost, but the other may suffer from what is called sympathetic inflammation.

Cold in the Eye, or Conjunctivitis, is not a very serious complaint. It may come on without any apparent cause, or may be the result of exposure to cold or draught. Sometimes it assumes an epidemic character, every member of a household being attacked in turn. It generally begins with a feeling of itching or irritation, followed by a sensation of grittiness, as if there were sand in the eye. The eye is red and watery, and a strong light is painful; in the morning the eyelids are stuck together, and cannot be opened without some difficulty, or until the sticky secretion has been sponged away with tepid water. Usually both eyes are attacked, although the cold may begin in one before the other. If properly treated it soon gets well, recovery being perfect, and no trace of injury being left behind. In the first place, the bowels should be acted on freely by some simple purgative, such as the aperient

pill (Pr. 60) at bed-time, followed by the saline draught (Pr. 25) in the morning. The eyes should be bathed every two or three hours with an alum lotion, made by dissolving six grains of alum in an ounce of distilled water. In the intervals they may be washed with tepid water, to keep them free from discharge. A little spermaceti ointment or warm mutton suet smeared over the edges of the eyelids at bed-time will prevent them from sticking together. When there is much fever the aconite mixture (Pr. 38) may be used with advantage, and when debility is the prominent symptom the tonic quinine mixture (Pr. 9) half an hour before meals, followed by a couple of tea-spoonfuls of cod-liver oil three times a day immediately after meals, will do good. The patient should stay in the house if possible, and should not use the eyes more than is absolutely necessary. The usual duration of a cold in the eye is from three or four to ten days, but in bad cases it may last a fortnight.

When a cold in the eye becomes chronic it is far less amenable to treatment. It may be the sequel of an acute attack, or it may result from the irritation caused by exposure to smoke or to the fumes from chemicals; crowded rooms and dusty occupations also favour its occurrence. There can be no doubt that in many cases it is contagious, and in large schools it sometimes assumes an epidemic form, and may last for years. In these cases it is a good plan to use a lotion, containing three grains of alum and one grain of sulphate of zinc to the ounce of water. A small blister to the temples or behind the ears will relieve the pain and intolerance of light. Should the patient object to a blister, a piece of mustard-leaf will answer almost as well. When the eyes are very red, arsenic may be given—a tea-spoonful of Pr. 40 every three or four hours; when there is reason to think the eyes have been overstrained complete rest should be enjoined. Reading in a bad light or in the train, doing fine needlework, and casting up figures will be found especially injurious, and if indulged in for any length of time will do much to retard recovery. The greatest attention must be paid to the general health, and in the case of children steel wine and cod-liver oil should be given freely. For town dwellers nothing does more good than a change to a good bracing atmosphere. In schools and other large institutions the same towel should never be used by the affected and healthy, and the most scrupulous attention must be paid to cleanliness and ventilation.

Ophthalmia, or inflammation, with formation of matter, may be regarded as a very severe form of the preceding. It arises most commonly when people are crowded together in filthy, ill-ventilated habitations. It is common in Egypt, and is said to have been introduced into this country by our troops in the beginning of the present century. It is of frequent occurrence in workhouses, pauper schools, and convict establishments: in fact, in all places where a number of people occupy the same dormitories and use the same lavatories. The constitutional symptoms to which it gives rise are severe, and the risk of permanent injury to the sight is very great. It usually commences with a slight discharge and swelling of the lids, and the discharge quickly increases and becomes converted into matter. In mild cases the treatment is that already laid down for cold in the eye, but in the more severe forms this will not suffice, and the attendance of a medical man is absolutely necessary. It is decidedly infectious, and if the greatest care be not taken it will spread. Should it break out in a school, the sufferers should be at once isolated, and if possible sent

right away ; unless this precaution be taken, one child after another goes into the infirmary with "bad eyes," and the cases increase in number and severity day by day and week by week. Matters proceed from bad to worse ; the whole establishment is disorganised, nurses and helpers suffer, many eyes are irrevocably injured, and a public scandal is created. When there is an outbreak, a doctor should be called in at once, that he may examine systematically the eyes of every child in the institution. In this way he will be able to separate the unhealthy from the healthy. It is probable that the whole place will have to be fumigated or disinfected in some way before the disease can be stamped out. The washing arrangements will have to be so conducted that personal contact between the children is avoided. Each child should receive a dry towel from the attendant in charge, and should return it to him when done with. These towels are not to be used again until they have been boiled, or dried in a hot closet at a sufficiently high temperature to destroy their infectiousness. The same person should not attend on the healthy and the sick. An epidemic of "bad eyes" in a school or other institution is a most serious matter, and too much care cannot be displayed in stamping it out.

Inflammation of the eyes in newly-born infants often occurs when the mother at the time of her confinement suffered from a discharge. It may also arise from neglect of cleanliness, from exposure of the eyes to the glare of a hot fire, and from the use of irritating substances—soft soap and spirit, for example—with which children are often washed soon after birth. It generally comes on when the child is a day or two old, and usually it is first noticed that there is a slight discharge from the eyes, and that the edges of the lids are glued together during sleep. The secretion is at first clear and watery, but soon gets thick, like matter. The more profuse the discharge and the deeper its colour the more serious is the case. The treatment consists in washing away the secretion as often as it collects with some astringent lotion, that will check its formation. The lotion may be made by dissolving a drachm of alum in half a pint of water. It should be used every hour, or oftener, according to the amount of discharge, both day and night. The nurse should lay the child on her lap, turning its head to one side or other, according to the eye to be washed out. With the finger and thumb of the left hand she holds the lids open, whilst with the right hand she squirts into it with a small glass syringe a good stream of lotion. It should be directed outwards away from the nose, so that the lotion runs over the eye into the napkin on which the child's head rests. If an efficient nurse cannot be obtained, the lotion may be applied by means of a soft camel's-hair brush, but this is far less effective than syringing. A good way of preventing the child from struggling is to place it with its arms by its side on a shawl or long towel, which should be wrapped round it several times, leaving only its head out. The lotion may be slightly warmed by placing a little in a cup in front of the fire for a minute or two, or by the addition of warm water. A little spermaceti ointment applied to the edges of the lids will keep them from sticking together at night. The child should be kept in a warm airy room until all inflammation has subsided, and it would be as well not to have the room too brilliantly lighted. Plenty of good breast milk is essential, and should the mother's supply be deficient a wet-nurse must be procured. The most

unremitting attention must be paid to cleanliness, or there will be danger of the sight being permanently injured. The pulsatilla mixture (Pr. 43), in five-drop doses every hour, often does good.

The following remedies are of occasional value in the treatment of inflammation of the eyes occurring either in children or adults :—Aconite (Pr. 38) when there is considerable elevation of temperature with quick pulse, dry skin, and great thirst, especially when the attack is due to exposure to cold. Belladonna (Pr. 39) when there is throbbing pain in the temples or eyes, with great intolerance of light. Arsenic (Pr. 40) when the secretion is acrid and burning, and there are tearing or stabbing or stinging pains in the eyeball. Arnica (Pr. 42) when the inflammation arises from some mechanical injury. The arnica lotion (Pr. 94) may then be used as an accessory. Pulsatilla (Pr. 43), when the eyelids stick together and there is an increased secretion of tears with neuralgic pains in the eye. Corrosive sublimate (Pr. 48) in very acute attacks. Phosphorus (Pr. 53) in obstinate cases resisting all ordinary treatment. Cod-liver oil often does as much good as anything in delicate children.

Gonorrhœal Ophthalmia—that is, inflammation of the eyes resulting from Gonorrhœa—is a most serious complaint, and a doctor should be consulted without a moment's delay.

Blair Eyes—The condition known by this name is usually the result of a previous attack of inflammation. The lids are everted, and are red and swollen. Often there is a sense of grittiness or heat in the eye, and there may be some discharge—sufficient, perhaps, to gum the edges together in the morning. The use of an alum lotion—a drachm to half a pint of water—may do good, and benefit is often experienced by improving the general health. Iron and quinine, with cod-liver oil, may be taken with advantage. The arsenic mixture (Pr. 40) or the pulsatilla mixture (Pr. 43) may do good. Change of air to a warmer atmosphere is often beneficial. The application of spermaceti ointment to the lids at bed-time may be tried ; as a rule, however, it is best to consult an ophthalmic surgeon.

A *Stye* is a little boil, occurring at the edges of the eyelids among the eyelashes. It gives rise to some pain and inconvenience, but nothing more. It is most commonly met with in the weak and debilitated, and in them is prone to occur after long-continued employment of the eyes by artificial light. Probably the best remedy is pulsatilla, either alone or alternately with aconite. A tea-spoonful of Pr. 38 and Pr. 43 may be given alternately every hour. This is the dose for an adult ; for a child a proportionately smaller dose would be required, according to age. Fomentation with hot water during the day and a bread-and-water poultice covered with oil-silk at night will be found useful. Pulling out the lashes most involved sometimes effects a cure. If the stye will not break, pricking it with a needle and squeezing out the contents will usually put an end to it. To prevent their recurrence the health must be improved, and with this view cod-liver oil or pancreatic emulsion may be given.

Twitching of the Eyelids, sometimes known as “ Life Blood,” is a spasmodic condition of the muscles surrounding the eye. Sometimes it is so slight that it can hardly be seen, although the patient distinctly feels the quivering, but not unfre-

quently the twitching is perfectly obvious. As a rule, it affects one eye only. It generally comes on as the result of worry or over-work, and is not uncommon in business men. It is rather a feeling of discomfort than of actual pain. It may result from over-indulgence in alcoholic liquids. The patient often wishes to get rid of it, not because it gives him pain, but because people notice it, and think he is nervous or has been drinking. We remember a traveller who was most anxious to be cured, because he had to go about soliciting orders, and found that no one would deal with him; "they suspected a man who could not keep his eyes straight and look them in the face." Probably the best treatment is *nux vomica* (Pr. 44) or *pulsatilla* (Pr. 43); should one fail, the other may be tried. Often enough, however, it gets well "by itself," as we say. The bowels should act freely, and the state of the digestion should be inquired into. When there is debility, iron or quinine, or both, may be given.

Colour-blindness.—This is a defect of sight by which the power of distinguishing colours is either impaired or altogether lost. It is a subject of great interest, and even of national importance. When we consider how many lives are daily dependent, by land and sea, upon the accurate recognition by one person of the colour of a lamp, how many accidents, otherwise inexplicable, have resulted from inability to distinguish colours, we are astonished that the subject has received so little consideration in this country. Colour-blindness must have existed at all times, but the first case of which we have any authentic record was published towards the end of the seventeenth century. A century or so later came the case of the great philosopher Dalton, whose description of his own red-blindness is so well known as to have led many to apply the term "Daltonism" to colour-blindness. There is a curious story related of Dalton, which illustrates very aptly his want of appreciation of colour. He had to be presented at Court, and being a member of the Society of Friends, some little difficulty was experienced with regard to his dress. He declined to wear the sword, which is an indispensable appendage of ordinary Court dress. The robe of a doctor of civil laws was known to be objectionable on account of its colour—one forbidden to Quakers. Luckily it was recollected that Dalton was colour-blind, and that as the cherries and the leaves of a cherry-tree were to him of the same colour, the scarlet gown would present to him no extraordinary appearance. So perfect, indeed, was the colour-blindness that this most modest and simple of men, after having received the doctor's gown at Oxford, actually wore it for several days in happy unconsciousness of the effect he produced in the street.

As a rule, a colour-blind person sees red and sea-green as grey, scarlet and green as yellow, and rose-colour and blue-green as blue; whilst he can distinguish the shades of red from each other, and also the shades of green from each other. If such a person look at a red and a green through a red glass, the green will appear darker, but the red will be nearly as bright as before; through a green glass the red will be darkened, but the green will be but little altered. In this way colour-blind persons may distinguish the colours of a Turkey carpet. It is rare for a person to be utterly destitute of all perception of colour, unless there be, in addition, some other disease of the eye.

The proportion of the colour-blind to the population generally is about four or

five per cent. In America it is said to be less common. Women are rarely colour-blind. It is frequently hereditary, and as a rule remains unaltered throughout life. It is said that intermarriages favour its occurrence, but really little or nothing is known about its cause. In exceptional cases it comes on in adult life, possibly from over-use of the eyes or the constant strain of looking at colours. After a railway accident from not distinguishing the red light, the engine-driver confessed that for some time he had been losing the power of recognising colours, and so sensible was he of his deficiency in this respect that he was on the point of resigning his post when the disaster occurred. The necessity of testing for colour the eyes of porters, engine-drivers, signal-men, navigating-lieutenants, and others employed on railways or at sea is obvious. As a matter of fact, most railway companies do subject their officials to a colour test, but the examination rarely extends much beyond the exhibition of green, white, and red coloured lamps, a method which is insufficient to test those cases in which there is not absolute colour-blindness, but only impairment of the sense of vision in this respect. A man may be able to discriminate between red, blue, and green light transmitted through glasses of these colours, but may confound pink with green worsteds; and it is known that certain conditions of the atmosphere may give to a red light just that kind of tint which would confuse such a man, and would justify his rejection as a driver on a railway. The best way of testing the sight for colour is to take a large number of pieces of worsted, variously coloured, and direct the subject of examination to sort them. A single error would settle the point; the tints most likely to be confounded are pinks and light greens. It must be remembered, too, that the colour-blind can distinguish reds and greens better by an artificial light than by daylight. Care should be taken in testing for colour-blindness, that mere ignorance of the names of colours is not mistaken for colour-blindness, and thus a child be proscribed a business in which he might have succeeded.

For this complaint there is no cure and hardly any palliative remedy. It is said that if a colour-blind person would wear a pair of spectacles with one eye red and the other green, he might in time be enabled to form a judgment of red and green things intuitively.

Snow Blindness is a temporary loss of sight, caused by looking at the dazzling whiteness of the snow. A similar condition may result from looking at an intense artificial light. Lighthouse keepers, after trimming their lamps at night, are often for some minutes absolutely blinded, and do not completely recover for many hours. The only thing is to wear dark blue spectacles, so as to cut off the glare of the light.

Night Blindness, or impairment of sight, varying from slight dimness to almost complete darkness after the sun has gone down, occurs most frequently among sailors and others who have spent much of their time in the tropics. The glare is so great during the day that the eye receives little or no impression from an object not brilliantly illuminated. The production of this condition is much favoured by debility and weakness, and it is not of uncommon occurrence in connection with scurvy (*see* SCURVY). The great thing is to give the eyes rest, and to improve the general health by change of air, the administration of tonics, and so on. Absolute darkness for a few days, or even weeks, till the attack is overcome, is better than

merely shading the eyes, and it gives a quicker result. Shading is a proper precaution for a time—a month or more—after the eyes are apparently right again.

Specks before the Eyes, or *Muscae volitantes*, are of common occurrence in connection with megrim, or sick headache (*see* MEGRIM). They often occur, however, without any accompanying headache. Their great characteristic is their incessant movement, for by no effort of the will can they be kept quiet even for a moment. They come into the field of vision, traverse it, and then suddenly disappear. Sometimes they are black, and at others quite bright, like little specks of light. They are seen quite as distinctly when the eyes are closed as when they are open. They may occur at any age, but are most common in those who have passed the meridian of life, and often enough they are associated with short-sightedness. Sometimes they depend on an abnormal perception of particles of dust floating in the fluid which moistens the eye, at others they are due to little particles floating about in the interior of the eye itself. They are usually most troublesome when the eyes have been tired over any fine work, especially if performed by candle-light, and they are intensified by worry and anxiety, or by anything which overtasks the brain or lowers the health. They do no harm, and as a rule cause no inconvenience. They may last for years, and then, perhaps from some change in occupation or mode of life, take their departure. If they are persistent and cause much uneasiness, it would be as well to have the eyes examined by an ophthalmic surgeon, to see if they are sound. Should no fault be detected, the patient cannot do better than live quietly and steadily, keep in as good health as possible, and ignore them. They should not be looked for. Plain glasses of neutral tint or dark cobalt-blue may render them less apparent. When there is anæmia, iron will often effect a cure (*see* ANÆMIA). In other cases belladonna (Pr. 39) may prove useful.

Sometimes we meet with specks before the eyes which, instead of being in constant movement, are quite stationary. These are of more serious import, and may be the precursors of cataract or other organic disease of the eye. They are often associated with impairment of vision. In these cases an ophthalmic surgeon should be consulted.

Pain in the Eyes after reading or minute work of any kind is often due to spasm of the muscle of accommodation. Engravers and workers with the microscope frequently suffer severely. The pain comes on after prolonged application, and is usually of a dull aching character. Not unfrequently it is attended with a little feeling of sickness and considerable depression of spirits. The best thing is to lie down in a dimly-lighted room when the pain comes on, and place over the eyes and eyebrows a pad of lint dipped in cold water. A small piece of mustard-leaf to the temples or behind the ears will ease the pain. We have found relief from bathing the eyes with a very weak solution of atropia—it need not be of any definite strength, but may be prepared by putting a drop or two of the solution of atropia (*liquor atropiæ*) in a tumblerful of water. It is to be used occasionally as a lotion but must not be taken internally. Arnica often does good; it should be taken according to Pr. 42, and also applied locally in the form of the arnica lotion (Pr. 94). When the pain is the result of prolonged work by gaslight, nux vomica (Pr. 44) may be used.

Cataract.—By the term cataract is meant an opacity of the crystalline lens, or

of its capsule, or of both. The lens, instead of remaining clear and transparent, becomes opaque, like ground glass. There are two kinds of cataract: hard and soft; the former occurring after the age of, say, thirty-five, and the latter occurring in young people. Cataract is said to be *congenital* when it dates from birth, it is *traumatic* when the result of injury, it is *secondary* when it follows some other disease of the eye, it is *diabetic* when the result of diabetes, and it is called *senile* when it is the result of old age. Doctors often use these terms, and it is just as well to understand what is meant by them. There is no doubt that in some cases cataract is hereditary, and it frequently occurs in several members of the same family. When the parents are first cousins the children often suffer from cataract or other congenital defects. Traumatic cataract may arise from a blow or other mechanical injury. If there be rupture of the external coats of the eye, injury to the lens is almost certain to occur. Diabetic cataract is very similar in character to that of senile decay, and is, no doubt, due to the imperfect nutrition of the whole system. Senile cataracts usually occur at from fifty to fifty-five years of age. One eye may be attacked, or both. In some patients the progress of the disease is rapid, whilst in others it may last many years.

In cataract, the first thing noticed by the patient is, as a rule, indistinctness of sight, or mistiness. Things at a distance are seen with difficulty, and seem as if they were being viewed through a mist or fog. As the disease progresses, near objects are also seen less clearly. People with cataract see best in twilight, or in a dull, subdued light, because then the pupil is more widely dilated. They often shade their eyes with the hand when they wish to look at anything, and they not unfrequently take to wearing neutral-tinted glasses, or even goggles. The patient sees better in an oblique than in a straight direction. From the gradual way in which the complaint comes on, a natural, easy manner is retained, very different from the fixed vacant stare which marks some forms of loss of sight. Indeed, the sufferer never becomes so blind from mere cataract that he cannot distinguish night from day, or make out the position of the window and the shadow of passing objects, and usually he is able to find his way about a house he knows with little difficulty. Objects sometimes seem double, or assume fantastic shapes. The moon is often mentioned as showing these changes remarkably well. Many patients with cataracts see dark motionless specks before the eyes. Medicinally there is little or nothing to be done for cataract. The only thing is to go to an ophthalmic surgeon and place the matter in his hands. There are several different modes of operating for this affection, but the details of these proceedings it would be futile to describe. When children are observed to avoid a bright light in reading or study, or when it is noticed that they hold the book more or less on one side, and nearer the eye than they should, it may be suspected that they are beginning to suffer from cataract, and it should be seen to at once.

Squinting, Squint, or Cross Eye.—This is a condition in which the axis of one eye is not parallel with the axis of the other; that is, the two eyes do not work together. If the squint be directed inwards, towards the nose, it is said to be a *convergent* squint; if outwards, it is a *divergent* squint; if confined to one eye, it is *monocular*; if the squint alternate between the two eyes, it is *binocular*.

Squint may begin at any age, but commonly it is first noticed between the ages of five and nine. Mothers sometimes tell us that the baby was born with a squint, and it is quite possible. We all know that children are sometimes born with a club-foot, and there seems to be no good reason why they, or rather some of them, should not come into the world squinting. In fact, all babies have somewhat of a squinting appearance—it is very slight, of course, and it is extremely difficult to decide at first if there is really a squint or not.

The causes of squint are somewhat obscure. It is said that a child may learn to squint from imitating other people, but this seems very doubtful. It is a common opinion, but there is very little foundation for it. Then it is said that habitually looking at a scar or speck on the nose may induce it, and this is just possible. Many children squint after a violent fit of passion. A child has squinted for months after being left to cry alone in a dark room. In one little boy the affection appeared from bathing him in the sea in spite of his earnest protestations by screaming and struggling. It sometimes comes on as the result of the irritation caused by teething or by worms. It sometimes follows measles and scarlatina, or it may be associated with a general condition of ill-health. Sometimes it comes on in the course of tubercular meningitis and other affections of the brain, and it is then a bad sign.

It is often by no means an easy matter to say which eye it is that squints. The following test has been suggested :—Make the person stand some four or five yards in front of you in a fairly good light; tell him to cover one eye, say the left, to look at you with the other, and to keep the head straight. The right eye will then be in the centre of the orbit. Now make him uncover his left eye. If the right eye which has been open be unaffected it will keep its central position, while the left is turned inwards; but if it be the one at fault it will turn in, while the left will become straight. The experiment should be reversed by making him cover the right eye, whilst the left remains open. In the case of a child, a grown-up person must stand behind and cover or uncover the eye as required. If the matter is still in doubt the patient should be made to blink several times. Every now and then cases are met with where nothing but a most prolonged and careful examination will settle the question as to the existence of a squint or not.

When we come to the question of treatment there is really very little to be said. If the condition of the eyes is dependent on, or follows, scarlet fever, whooping-cough, or some such constitutional complaint, hopes may be entertained of recovery, and the same may be said of cases due to worms, teething, &c., but in other cases mere medicinal treatment will be of little avail, and the surgeon's art will be required before a cure can be effected. When the squint is the result of some imperfection of the sight, remedying this by appropriate glasses may effect a cure, but in the large majority of cases it will be necessary to divide the muscle at fault. The operation in skilled hands is not a dangerous one, and all pain is obviated by the administration of an anæsthetic.



Artificial Eyes.—So many people have unfortunately to wear an artificial eye that a little general information on this subject may prove acceptable. Artificial eyes have been used from the remotest times to remedy the deformity arising from a shrunken eye, and it is said that they have been found among the mummies of

ancient Egypt. Formerly they were made of gold, copper, glass, porcelain, and other substances, but now enamel is always used. The artificial eye is not a globe, but is a mere shell, painted on the front to represent what henceforth will be its fellow. The adaptation and correspondence involve much more than merely matching the colour. Some artificial eyes are so well made and so carefully adapted that they escape detection not only by casual observers, but also by doctors conversant with the strides made of late years in this department. It is essential that the eye should not be too thick, on account of its weight, and it must not be too thin, or it will be brittle. There are many advantages in wearing a false eye after the true one is lost. Let alone the question of appearance, it keeps the eyelids in their proper position, it prevents the lashes from turning inwards and producing irritation, and it prevents foreign bodies from entering the eye. Many a servant wears an artificial eye without his employer being aware of it. It is sometimes necessary that the stump of the eye—the remains, that is, of the true eye—should be adjusted to fit the artificial eye and ensure the proper movements, but this is readily done by the surgeon. An artificial eye should never be worn except at the advice of a medical man. Its use should not be commenced too soon after the loss of the true eye, for the stump continues to shrink for some time, and yet the wearing of the eye must not be delayed too long, or the eyelids may contract.

The mode of introducing the artificial eye is very simple. Hold it between the forefinger and thumb, and wet it by dipping it in water. Then push the broad outer end under the upper eyelid, and slide it upwards towards its destined position as far as it will readily go; retain it there with the forefinger of the one hand, and with the finger of the other hand draw down the lower eyelid till the lower edge slips in. To remove it, depress the lower eyelid with the finger, pass the finger-nail, a tooth-pick, or any little blunt instrument under the edge of the eye, lift it forward, and let it slip out. Catch it in the hand, or on a handkerchief, or let it fall on the bed. Do not drop it, or you may injure it. After a little experience it is no more difficult than pulling off your boots. It should be removed every night at bed-time, and not replaced till the following morning. Should this precaution be neglected, the part beneath may get sore and irritable. After removal it should be dipped in tepid water, wiped with clean lint or an old soft pocket-handkerchief, and put in a box on cotton. Many people leave it in a tumbler of cold water all night, but this is a bad plan, as it is very apt to become cracked on the surface, and the impurities of the water tend to roughen the enamel. Should grease collect on the surface, it may be removed by wiping it with a piece of lint dipped in spirit. After about a year the eye loses its polish, and the enamel becomes rough, and then it is necessary to procure a new one.

Short-sightedness.—People who are short-sighted—or “myopic,” as it is technically called—can usually see clearly near objects, but are unable to make out those at a distance. Myopia—that is, short-sightedness—is nearly always hereditary. Having once occurred, it is almost sure to be transmitted to the children, and the offspring of very short-sighted parents hardly ever escape the defect. As a rule, it does not manifest itself until the age of eight or nine, and it is unusual for it to appear after the age of fifteen. Still, it may be acquired, and is sometimes produced artificially,

as we say, in students, watch-makers, steel-plate engravers, and others who for many years have applied their eyes for many hours daily to fine work or literary pursuits. Thus, myopia may be regarded as one of the evils of civilisation and high mental culture. It is almost unknown in barbarous nations; and it prevails chiefly among the cultivated class, who in childhood and youth have spent many consecutive hours in close study. It is rare amongst the poor, and it is less common in country districts than in large towns. It makes all the difference whether the eyes are for years daily employed in looking at walls a few feet distant, or, as in the country, at mountains and woods perhaps many miles off. It is said that with the spread of education myopia is daily becoming more general. At one college in Oxford 32 out of 127 students were short-sighted, and in Germany it is excessively common.

The treatment of near-sightedness consists in wearing concave lenses, either in the form of spectacles or double glasses. A concave glass  is one that is hollowed out, or thinner at the centre than at the edges, thus: . A single eye-glass should never be used. It is often necessary to have two pairs of spectacles or eye-glasses, or one pair of spectacles and one pair of eye-glasses, the stronger pair being for distant objects, and the weaker for ordinary reading. It must be remembered, too, that one eye is often far more short-sighted than the other, and in that case it would not be right to have the two lenses in a pair of glasses of the same strength. It is a matter of such importance to obtain glasses of proper strength in these cases, that the spectacles should never be purchased at random of a vendor or oculist—in fact, no good optician would undertake the responsibility of recommending a pair. The right thing is to go to an ophthalmic surgeon or to a physician who has made the subject his study, and get him to go thoroughly into the case. For want of this little precaution many a sight has been hopelessly ruined. No medicine will cure short sight, but there are certain general directions for myopic patients to which attention should be paid. In the first place, a stooping position must be avoided, as it tends to cause congestion of the eyes. In reading, the head should be well thrown back, and the book should be brought to the eyes, and not the eyes to the book. It is a bad plan to read books printed in narrow double columns, for it is a great strain for the eye to travel from one short line to another. Reading whilst driving or in a railway carriage is also injurious to short-sighted people. Reading by a flickering gas-jet is also very bad; at night a reading-lamp should be used with a shade which throws the light on the book and leaves the rest of the room in darkness. When the eyes are tired and weary with reading or writing, stop for a time, and do not begin again until they are rested. If the eyes feel hot and irritable, lie down in a dimly-lighted room, and cover them with a fold or two of lint which has been dipped in cold water.

A recent writer, speaking of the prevalence of short sight in children, says:—“There is no doubt that deficient and improperly-admitted light in school-rooms is one cause of the rapid progress of this optical defect. To sit facing a light during study, for instance, is extremely injurious to the best eyes. On looking up, the eye becomes saturated with light, and then, on turning to the printed page, an effort must be made to overcome the dazzling and clear up the vision. The light should enter from above and at the side, so as to strike the page of the book, and not the

eyes, and it should be, if possible, a direct rather than a reflected light." After pointing out that deficient illumination is injurious, because it requires the book to be brought near the eye, he continues:—"School furniture is also ill adapted for the scholar, even if properly placed as regards light. The bench is too high for the desk, so that the pupil must bend over his work, thus favouring congestion to the head, and contributing to the congested condition at the back of the eyes; or the seat is too far away from the desk, and the head is therefore brought too near the book, so that the growth of near sight is directly encouraged. All these school-room imperfections might, of course, be of comparatively inferior moment, if it were not for the fact that children are obliged to spend six hours a day in school for nearly the whole year round. If the high-pressure system of education shall be succeeded, in course of time, by a system more rational, moderate, and healthful, the interior arrangements of the school-houses will not be so serious a matter. Any middle-aged person can look back to the days when near sight and weak sight among boys and girls were quite rare. It was not then the fashion to teach children everything—including drawing, music, and all the languages except English; nor was it then supposed that a sufficient amount of bodily exercise would neutralise the effect of an excessive amount of brain-work. Two and two then made four, and the brilliant notion that an exhaustion in one direction could be made good by an exhaustion in another direction was not then in vogue." When children show signs of becoming short-sighted, they should not be allowed to read or study more than is absolutely necessary. Get them away in the country, and encourage them to ride, and walk, and climb hills, and look miles and miles away. Short-sightedness usually becomes less marked as we grow older, but it does not follow that myopia is a thing to be desired.

Long Sight, or Old Sight, is one of the first of the legion of troubles which advancing years bring upon all of us. The patient finds that he has to hold his book at a much greater distance from the eye than formerly, and that the print seems less distinct. After a time there is more or less fatigue and confusion of sight in reading or sewing in the evening, especially if tired, and it is found comfortable to favour the eyes by frequent rest and change of occupation. A bright light is sought, because then the object is better illuminated. When the defect is fully developed, reading the newspaper is attended with difficulty, in spite of the best light and straining efforts to see. Letters which are like each other are not easily distinguished, single strokes appear double, and one dot seems to be two. Figures, as a rule, are more indistinct than letters.

Old sight generally makes its appearance between forty and fifty. It may come on slowly or comparatively quickly. General debility will hasten its onset, and often it is not complained of till after some accident, illness, or serious worry. The treatment of this condition is simple enough. The patient will have to go to an ophthalmic surgeon, and get measured for a pair of convex glasses—glasses that are thicker in the centre than at the edge, thus:— (). As soon as the impairment of sight is noticed, glasses should be resorted to. There is no advantage in delaying their use. To endeavour to do without when they are wanted is always foolish, and puts the patient to much unnecessary inconvenience. For night work a higher

power is required than for day work. When the night spectacles are changed because they are not strong enough, they should be used in the daytime. It is a great thing to get a comfortable pair of spectacles or double eye-glasses; should there be any doubt about them they should be changed, always, of course, under the direction of the ophthalmic surgeon. Many people use a "reading-glass," from three to five inches in diameter, set in a frame with a handle, and there is no objection to it, although it is far less convenient than a pair of spectacles. Old sight does not of necessity mean old age, for some people suffer from this defect of vision before they are thirty.

Spectacles and Eye-glasses.—We must say a word or two on this subject. The absolute necessity of purchasing the glasses under the direction of a qualified person, and of not going into a shop at random and taking just what the shopman gives you, has already been pointed out. In the mechanical arrangement of the lenses there are two or three points worthy of attention. The frames should be of metal, and sufficiently strong to prevent twisting or loss of weight. Steel is probably the best, although some people prefer gold. Lightness is, of course, essential to comfort. The nose piece, or saddle, should be carefully adjusted to fit the nose. Their pattern is a matter of taste, though the oval is generally considered to be the most becoming. The lenses themselves may be made of crystal—that is, Brazilian quartz—or of crown glass. The crystal is harder than glass, and is therefore less likely to scratch, and is not so liable to get broken. Moreover, it takes a higher polish, and being more refractive, it may be made of less thickness than glass. The great difficulty is to get a piece of crystal free from specks and impurities. Dishonest dealers often supply crown glass for crystal. The best way to distinguish between them is to apply a file to the edge of the material; glass cuts readily, but crystal is much harder. Crown glass lenses are very good, and may be used when the spectacles have to be changed often, or when expense is an object. Tinted or coloured lenses are sometimes used, but only when they are made of glass. As a rule, they are objectionable, because they remove the natural stimulus of white light, and thus make the retina unduly sensitive.

Eye-shades are sometimes used with advantage, especially when a bright light is objectionable. They may be made of fine fabric, of gauze coloured black, or, what is still better, plain grey. It is curious that shades are not more largely used as protectors for the eyes by artisans and others employed in work producing chips or fragments. Blue gauze wire set in a spectacle frame would answer the purpose admirably, especially if it were somewhat cup-shaped, so as to guard the eyes at the side. When the particles are not hard or are not driven with force, and especially when accurate light is required, as in lathe-work, thick glass set as spectacles would suffice. For reading, a shape that will protect the eyes from the direct rays of light is useful.

FAINTING.

A fainting-fit arises from sudden failure of the heart's action. It is met with most frequently in young adults, especially in young females. Its occurrence is favoured by general debility or ill-health, and more particularly by anæmia, or

poorness of the blood. It is very common in young ladies who take very little out-door exercise, and spend most of their time on the sofa reading novels. Want of active occupation powerfully predisposes to fainting. People who are not very strong are most likely to faint after some unusual fatigue, or after long abstinence from food. A liability to fainting seems almost to be hereditary, so common is it in some families. Sometimes it is associated with heart disease, but in the vast majority of cases it is purely functional, and there is nothing wrong with that organ.

The determining causes of a faint are very variable in character. In susceptible subjects it may be brought on by any sudden impression on the nervous system. This need not of necessity be painful or unpleasant, for people may faint from excitement or excess of joy. For instance, the sudden announcement of the return of some long-lost relative, or of the favourable termination of a protracted lawsuit, may be the exciting cause. The sight of certain animals, such as a frog, or a black-beetle, or even a mouse, is quite enough to send some people off, whilst others faint immediately at the sight of blood, and even feel sick and faint if they read of an accident in the papers. We have all heard the story of the young curate who fainted on having to read the account of one of the sanguinary battles in the Old Testament. Medical students sometimes faint at their first operation. Such a trivial accident as pricking the finger will make some people feel sick and faint.

A fainting-fit is so sudden in its occurrence that it is not easy to describe it. Usually there is at first a feeling of faintness, then of sickness and giddiness, there is a blank before the eyes, and everything seems as if it were swimming about or going round and round, the face becomes deadly pale, the hands and feet get cold, the teeth chatter, and the patient feels as if she were sinking backwards, or going down and down ever so far. As the faint passes off and consciousness returns there may be a deep sigh.

There are one or two complaints from which a fainting-fit has to be distinguished. In the first place, from epilepsy. There is not the slightest difficulty in distinguishing it from an ordinary epileptic fit, but from attacks of epileptic vertigo or *petit mal*, as we call it, there is often very great difficulty, for they run so very closely together. In attacks of *petit mal* the fit comes on more suddenly, and the loss of consciousness is distinctly marked. In fainting the insensibility is not absolute, and when it is over the patient can often tell what occurred, although at the time she was unable to speak. Then again, people rarely faint without some definite cause. If a young woman sitting or lying down in a room with plenty of fresh air suddenly becomes insensible, without having received bad news or anything of that kind, it is something more than a mere faint, and is probably a fit.

There is usually little difficulty in distinguishing a faint from an attack of hysterics. In the latter case the patient will be found sighing, laughing, or crying, or endeavouring to attract attention in some way or other. Moreover, if you feel her pulse you will find that it is beating strongly, affording positive proof that the heart has not ceased beating. Of course a person who is habitually hysterical

may have a fainting-fit, but this is a circumstance which, if borne in mind, would give you no trouble as regards diagnosis.

You are not likely to confound apoplexy and fainting. Apoplexy may of course occur in young people, but is far more commonly met with in the middle-aged, or those advanced in life. A fainting-fit, moreover, is never followed by paralysis.

The danger of a fainting-fit is usually slight. In the great majority of cases the patient comes-to in a few minutes. If a person faints from a very trivial cause, it shows that there is some constitutional weakness, or at all events that the health is very much below par, and energetic treatment will have to be resorted to.

Next, as to the treatment of fainting. What are you to do for a person who is in a faint? If the patient has fallen on the floor, you should leave her in that position, and should on no account raise the head. If she has not fallen to the ground, but only back in a chair, put your hand behind her neck, and depress her head till you bring it right down between the knees. By this method, the blood runs down into the head, and this is just what you want: it is much better than lying the patient flat on the floor, for in that case, as the heart is not doing its work, you won't get the blood pumped up to the brain. You may sprinkle a little water over the face—a few drops will do as well as a larger quantity. When the face is pale and cold, use tepid water. A little ammonia or sal-volatile, or a bottle of smelling-salts, held under the nose, will often restore consciousness. Musk or camphor will answer almost equally well. It is a good plan to keep the hands and feet warm, and to chafe the chest over the region of the heart with a little spirit or eau de Cologne. As soon as the patient can be got to swallow, you had better give some brandy and water, or sal-volatile, or chloric ether, or any other stimulant that may be at hand.

To prevent further attacks, the great thing is to pay attention to the general health. Live as well as you can. Spend most of your time in the open air. Give up novel-reading, and go in for lawn tennis, croquet, or something of the kind. If you can, learn to ride, and take a good gallop every day. If you haven't a horse, don't forget that you have a pair of legs, and that a good brisk walk is one of the finest tonics in the world. A cold sponge-bath in the morning is good for you, but you may have the chill off just at first. Pay attention to your bowels, and see that they are open every day regularly. If not, you will learn from the article on constipation (*see* CONSTIPATION) what to do. If you are suffering from poorness of blood or anæmia, you will have to take iron (Prs. 1—7). If you are thin and weak, and badly nourished, cod-liver oil will be your remedy, or you may derive benefit from the hypophosphites (Pr. 55). If you are a town-dweller, try and get away in the country. A week or ten days in a country-house, or at a farm, will do you all the good in the world. If you go to the sea-side, try and get some sea-bathing. If you live in the country, get some one to invite you to come up to town for a bit, and do not hesitate to enjoy yourself as much as possible. A course of balls, and theatres, and concerts, or whatever your special form of dissipation may be, will do you no end of a lot of good—even more good than our medicines, and that is saying a great deal.

FEET—SWEATING OF THE FEET.

Offensive perspiration of the feet is a complaint from which many people suffer. It is often the cause of the greatest mental anxiety. We will give a few directions for its treatment. In the first place, the condition of the general health should be investigated. Should any fault be detected it must be set right. For anæmia or poorness of blood, iron (Prs. 1, 2, or 3) is the remedy; for loss of appetite, quinine (Pr. 9); for general debility, cod-liver oil; for mental anxiety or over-work, the hypophosphites (Pr. 55). The bowels should be kept regular. Out-door exercise should be taken daily. Stimulants are allowable only in the strictest moderation. Scrupulous attention should be paid to cleanliness. A cold bath should be taken every morning. The feet should be washed in tepid water night and morning, and oftener if possible. The addition of sea-salt to the water may do good, but when the perspiration has a sour acrid odour a little vinegar is better. The socks should be changed as soon as they get soiled, and they should be thoroughly washed each time, and not merely dried. The boots should have broad soles and square toes, so as not to cramp the feet; patent leather is to be avoided, and the same pair should not be worn every day. A dusting powder composed of equal parts of oxide of zinc and starch often proves useful; it should be sprinkled freely inside the socks. Belladonna liniment rubbed into the feet three or four times a day often effects a cure. Sometimes it fails, but on the whole it is a very reliable mode of treatment. Liquid extract of ergot in fifteen-drop doses three or four times a day sometimes does good. Some doctors employ an ointment composed of equal parts of lead plaster and linseed oil, spread on linen and wrapped round the feet, the application being renewed every third day for nine days.

FEVER AND FEVERS.—(*See* TYPHOID, TYPHUS, AND OTHER FEVERS. The Article on TEMPERATURE AND THE CLINICAL THERMOMETER may also be consulted.)

FLATULENCE OR WIND.

Flatulence, wind, spasms, or belching—for this affection is known by all these names—is one of the commonest symptoms of dyspepsia, and is often the one of which the sufferer is most anxious to be cured. Dyspeptics nearly always complain loudly of the “wind in their stomachs,” and frequently enough regard it as being at once the essence and cause of all their discomforts. The gas that produces all this trouble is usually derived from undigested food, detained in the stomach and undergoing a process of fermentation or of simple putrefactive change. It is thought that sometimes it is formed by the stomach itself, for the flatulence may come on when that organ is quite empty. Many people always suffer from this disorder if a meal happens to be delayed beyond the accustomed hour. Sometimes the flatus is quite tasteless, whilst at others it is attended with both the flavour and odour of rotten eggs. Flatulent dyspepsia occurs far more frequently in women than in men. Nervous and hypochondriacal women, who partake freely of tea, are very liable to suffer from it, especially when there is a general relaxed condition, and want of tone

of the system. Frequently the gas accumulates so quickly in the stomach and intestines, and leads to such an amount of distension of the abdomen, that patients have to loosen their clothes from inability to bear their tightness. In many people flatulence is always produced by the use of any food which is liable to undergo rapid fermentation.

Fortunately, we have many drugs at our command which prove useful in the treatment of this complaint. When it is dependent on indigestion, the rules applicable to the treatment of that condition may be advantageously followed. When not obviously associated with dyspepsia, it may often be cured by the avoidance of vegetable food, and tea and beer. Sugar and starchy foods must be avoided or sparingly eaten; and thin, well-browned toast may be substituted for bread. The meals should be very moderate, the food well masticated, and drinking postponed till the meal is nearly finished, or better still, till an hour or so after its completion. A due regulation of the periods for taking food will often suffice to obviate the flatulence which belongs to emptiness. It should be remembered that tea is especially obnoxious to flatulent people. Half-fed seamstresses, who subsist chiefly on weak tea and bread-and-butter, are frequent sufferers from this complaint.

A very common remedy for flatulence is a dose of sal-volatile—from thirty to forty drops in a little water. It seldom effects a cure, and at the best can be regarded only as a palliative. One of the best remedies with which we are acquainted is oil of cajeput—three drops occasionally on a piece of sugar. We have given it hundreds and hundreds of times, and had every reason to be satisfied with it. It does not prevent the formation of wind, but it brings it off the stomach and eases the chest. Any one suffering from flatulence would do well to try this. Sometimes oil of cloves or oil of carraway is given in the same dose and in a similar manner. Horseradish often proves very useful—from half a tea-spoonful to a tea-spoonful of the compound spirits of horseradish being taken three or four times a day in a little water. Drop doses of pure chloroform taken in a little water often succeed in dispelling the wind. Oxley's Essence of Ginger, an old-fashioned remedy, often does good in flatulence.

Charcoal is of great value in many cases. Sometimes the wind is produced in enormous quantities and with great rapidity, giving rise to distension, eructation, and mental depression, the sufferer complaining only of these symptoms, and not of pain or acidity. This enormous production of gas, irrespective of other symptoms, prevails chiefly among middle-aged women, especially at the change of life. It may be met with during pregnancy or suckling, or less frequently in the victims of consumption. This condition is usually met by the administration of wood charcoal in from five to ten grain doses. When, after a few mouthfuls of food, the wind is formed in a quantity so large that the sufferer is constrained to cease eating, the charcoal should be taken immediately before each meal. When, on the other hand, the patient is not troubled with the wind until half an hour or so after food, the charcoal should be taken soon after the meal. Sometimes profuse formation of wind is accompanied by acidity, and then the charcoal will generally remove both these symptoms. Charcoal may be taken in the form of a powder, but Bragg's Charcoal Biscuits are nicer and are sometimes more efficacious.

The Scotch custom of eating a crust of bread burnt brown is not a bad one. Sometimes the efficacy of the charcoal is enhanced by mixing with it an equal quantity of carbonate of bismuth. Should charcoal or charcoal and bismuth fail to remove these symptoms, the substance known as sulpho-carbolate of soda should be tried. It dissolves readily in water, and may be given in doses of fifteen or twenty grains three or four times a day. We often meet with people, generally women, who suffer from what is ordinarily called "spasms." The patient complains of considerable flatulence and distension, often limited to one part, or at all events most marked at one part of the abdomen, generally on the left side under the ribs. It is accompanied by considerable pain, which is temporarily relieved by the eructation of a little wind, but soon returns, and may last for many hours. This condition is usually relieved by sulpho-carbolate of soda in twenty-grain doses, or, should this fail, some preparation of phosphorus may be tried—say five drops of phosphorated oil on a piece of sugar every four hours.

Sulphurous acid taken in water, in from five to ten drop doses, often prevents flatulence produced by fermentation, and is especially useful when the gas is abundant. Ten or fifteen drops of dilute hydrochloric acid, a quarter of an hour before meals, will often prevent the occurrence of flatulence following food. A tea-spoonful of glycerine in water three times a day will be found useful.

Very frequently nothing succeeds in flatulence like assafœtida. For adults a five-grain compound assafœtida pill may be taken three times a day, or every four hours. In the flatulence of young children unconnected with constipation or diarrhœa, a tea-spoonful every hour of a mixture containing a drachm of the tincture of assafœtida to half a pint of water, will relieve the distension speedily, and is usually taken without any difficulty. When the flatulence is due to constipation or diarrhœa, assafœtida does little good.

In some forms of flatulence occurring in children, the perchloride of mercury mixture proves useful (Pr. 48). One of the best remedies for the flatulence of children is the old-fashioned dill-water. A tea-spoonful may be given occasionally when the wind is troublesome, or two spoonfuls with a drop of cajeput oil may be administered every four hours. When the child's health is bad, and the digestion is imperfect, generally with annoying flatulent distension, three or four pale, clayey, pasty, stinking motions being passed in the day, a tea-spoonful of the above-mentioned perchloride of mercury mixture given every hour, or, what is even better, one of the sugar and grey powders (Pr. 71) every hour or two hours, will usually quickly effect a cure.

Nux vomica is more or less serviceable in flatulence of all kinds. A tea-spoonful of the nux vomica mixture (Pr. 44) may be taken every two hours for twenty-four hours or more.

FLUSHING OF THE FACE.

This may occur as a symptom of dyspepsia, but it is often met with without any derangement of the digestive organs. Many women, from the sudden arrest of menstruation, or depraved health, or nervous depression, suffer from heats and flushes. The flush usually starts from some particular spot, such as the pit of the

stomach, and then spreads all over the body, even the backs of the hands becoming of a bright scarlet colour. The sensation of heat may be so urgent that the patient undoes her clothes or throws off the bed-clothes, and even opens the windows in the coldest weather. These heats last for a variable time, from a few minutes only to an hour or more. They usually come on without any warning and without any attributable cause. We have known cases in which they have occurred fifty or a hundred times in the day. Sometimes there is a sensation of heat without any flushing of the skin. Frequently they are followed by "chills" or by perspiration, which may be very profuse. These symptoms are often associated with coldness of the extremities, the feet and hands being often icy cold. They occur most frequently in women about the time of the change of life, but younger women are occasionally sufferers. We never remember meeting with this condition in men. The best treatment is nitrite of amyl. Eight minims of nitrite of amyl are dissolved in half an ounce of rectified spirit, and of this mixture three drops are to be taken on sugar every hour, or whenever the heats are troublesome. By this method we have relieved or cured dozens of people. Benefit may be experienced immediately, or not till the expiration of some days, or even a week. As the patient grows accustomed to the remedy the dose should be gradually increased. We need hardly say that the mode of treatment is perfectly safe, and that in a somewhat extensive experience we have never known it produce even the slightest inconvenience. We think it right to mention this, as some people seem to imagine that nitrite of amyl is a remedy which should be used only with the greatest caution.

Sometimes the occurrence of these heats and flushes is associated with considerable nervous depression. The patient may be so despondent as to feel as if she would go out of her mind. She may be so irritable as to be unable to fix her attention on anything, and the slightest noise causes the greatest distress. There is often considerable restlessness at night, the sleep being broken by harassing dreams. This condition is often the result of over-work, grief, worry, or too long residence in towns, and want of change of air and scene. When the heats and flushes are the predominant symptoms, nitrite of amyl given as above will nearly always effect a cure; but when mental depression, nervousness, and sleeplessness predominate, bromide of potassium proves even more successful. The best way to give it is in the form of the mixture (Pr. 31), two table-spoonfuls three times a day. Sometimes, however, all medicinal treatment fails to effect a cure, the symptoms recurring again and again, and then the only thing to be done is to get a thorough change of air and scene. Probably the best remedy is to travel on the Continent for from three to six months, but this few people can afford to do.

The flushings of the face, and hot and cold perspirations, are often relieved by *nux vomica*, particularly when one or two drops of laudanum are added to each dose. This treatment often controls the distressing flatulence associated with this condition, and removes the sensation of heat and weight on the top of the head.

Valerianate of zinc is a useful remedy for many of those numerous, distressing, and changeable symptoms to which we have referred. It will sometimes remove not only the flushings of the face, and the hot and cold perspirations, but also restlessness, nervousness, depression of spirits, sensation of suffocation in the throat,

throbbing of the temples, and fluttering at the heart. It will even succeed when these symptoms are associated with derangement of the womb, piles, dyspepsia, or constipation. It must be admitted, however, that sometimes it fails in the very cases in which we should have expected that it would do good. The dose is five grains three times a day, and it may be taken in the form of pills or dissolved in water as a mixture. Should the valerianate of zinc fail, tincture of valerian taken in water in tea-spoonful doses three or four times a day may be employed with a fair prospect of success.

Oxide of zinc pills (Pr. 66) have been highly recommended in the treatment of these distressing symptoms. One or two should be taken three times a day.

GALL-STONES AND BILIARY COLIC.

Gall-stones are usually formed in the gall-bladder, but occasionally in the substance of the liver. Sometimes they occur singly, and sometimes in considerable numbers. When they are solitary they are usually globular or oval, or pear-shaped. When there are several, they commonly have numerous polished facets, the result of mutual pressure and friction. Sometimes they are found accurately fitted to each other, and then they are said to be articulating. They vary in size from a small seed to a hen's egg. Their weight is inconsiderable; when fresh they are heavier than bile or water, but when dried they readily float. They vary in colour from a pearly-white to a deep black, but most commonly they are of reddish-brown tint. They consist of a substance known as cholesterine, with a certain amount of colouring matter. On cutting them open, they are usually found to have a nucleus or core. In exceptional cases, this nucleus may be some foreign body, such as a dead round-worm, a piece of a needle, or even a plum-stone. The body, or that part of the concretion between the nucleus and the crust, is marked with lines or furrows, consisting of radiating crystals of cholesterine, or it presents concentric rings or laminae, or is formed of an irregular mixture of cholesterine and colouring matter. The outer crust can often be separated from the body like a shell; it consists of concentric layers of different thickness, made up chiefly of cholesterine.

The tendency to gall-stones is rarely manifested before the age of thirty, though in rare instances they have been known to occur in children. Women are more liable to suffer from them than men, probably from their sedentary habits. Excess in eating often predisposes to the formation of these bodies, and so does the habit of taking only one meal in the twenty-four hours, in consequence of which the gall-bladder is not emptied with sufficient frequency.

As long as a gall-stone remains in the gall-bladder, it as a rule does no harm; but should it be forced into the narrow bile-duct, it causes the most exquisite pain, and the patient suffers from what is known as biliary colic. The pain that attends the passage of a gall-stone through the duct is agonising. Perhaps there is no pain to which the body is subject that is more severe. Women who have had families say that the pains of child-birth are nothing in comparison. We can hardly wonder at this when we reflect that through a tube, of which the natural size scarcely exceeds that of a goose-quill, there sometimes passes a stone as big as a walnut.

The attack usually comes on after the principal meal of the day, or after some severe muscular exertion or shaking of the body. Sometimes the patient is forewarned of his approaching trouble by a feeling of sickness, with much flatulence and an unusual disturbance of the nervous system. In many cases he is seized suddenly with violent pain, but more commonly it is moderate in its onset, and gradually increases in severity. The pain usually starts from the pit of the stomach, and spreads upwards perhaps to the shoulders, but never downwards. It is usually of two kinds—a dull, aching pain, which is constant, and an acute, agonising pain, which comes on by fits and starts. The pain is often so excruciating that a strong man rolls on the ground in his agony. Sometimes he bends himself nearly double, changing his position every moment in the vain endeavour to obtain some relief from his sufferings. The pain may be so intense as to cause strong convulsions. At the onset it is relieved by pressure, and the patient keeps his hands applied to the pit of the stomach, or rests perhaps the weight of his body on some hard substance placed beneath his stomach. Subsequently there may be intense tenderness of the abdomen, probably in part due to the repeated straining and retching. The paroxysms if frequent and protracted induce great lassitude and exhaustion, the face being pale, the pulse slow, and the whole body covered with a profuse sweat. With the pain there is generally much nausea and vomiting, and sometimes hiccup, and the matters vomited are usually very sour. The patient is flatulent and dyspeptic, languid and gloomy. Sometimes inflammation arises, and then the pulse becomes frequent, and the skin hot, and thirst and headache are complained of. Most commonly there is jaundice, but not always, for the stone may be angular in shape, and permit the egress of bile. At length, however, the concretion passes into the bowels, the pain suddenly ceases, and all is soon well again. When once a large calculus has forced its way through the duct, this remains permanently dilated, and smaller stones may afterwards be voided without pain or trouble. Some people get rid of scores of gall-stones in this way in the course of their lives. Generally the stones are voided with the stools, and they should always be looked for. It is a great satisfaction to find your enemy, and make sure that you have got rid of him. If you don't see the calculus, you can never be absolutely sure that it has not fallen back into the gall-bladder, instead of getting through the duct. You must remember that in some cases the stone may not be passed for some days after the sudden subsidence of the pain. You will have to exercise a certain amount of care and attention in looking for the gall-stone in the motions. As we have seen, gall-stones when dried readily float on water, but they will not do so in their natural condition. It is not enough, therefore, to mix the fæces with water, and trust to the calculus floating up to the top, for it won't. It is necessary that the whole of each alvine evacuation should be carefully passed through some kind of fine sieve. It may be a disagreeable thing to have to do, but it is a great satisfaction to find the stone, and make sure of it. In one case, a man collected fifty-five small biliary calculi, which he voided within the space of five weeks.

When concretions pass which are small and angular, having several flat surfaces, the trouble is probably not over, and more may be expected. If a single stone come away, large, smooth, and roundish, we may trust that there are none left behind.

Now, as to the treatment of an attack of biliary colic. What are you to do when you are seized with the pain? Take a draught containing twenty-five drops of laudanum, fifteen drops of chloric ether, half a tea-spoonful of sal-volatile, and twenty grains of carbonate of magnesia, in a wine-glassful of water. Should you not have all the ingredients at hand, put in as many as you can. Anything that ordinarily relieves spasm may do good. A stiff glass of hot gin and water is always readily obtainable.

A hot bath should be prepared as quickly as possible, and the patient should stay in it as long as he can bear it, or until he feels some relief. As a rule the pain is so great that he cannot remain quiet for any length of time, and soon wants to come out.

Hot poultices, or fomentations sprinkled with laudanum, or belladonna liniment may then be applied to the abdomen. A mixture of equal parts of belladonna liniment and chloroform liniment applied as a fomentation over the liver, or the seat of pain, under oiled-silk, will often give great relief.

Immediate relief is sometimes afforded by large draughts of hot water, containing two drachms of bicarbonate of soda to the pint. The soda counteracts the distressing symptoms produced by the acidity of the stomach, while the hot water acts like a fomentation to the seat of pain. The first portions of water are commonly rejected almost immediately, but it may be repeated, and after some time it will usually be found that the pain will become less, and the water will be retained. Another advantage is that the water abates the severity of the retching, which is usually most severe and dangerous when there is nothing on which the stomach can react. This plan does not supersede the use of laudanum, and in some cases a few drops may be advantageously added to the bicarbonate of soda solution, if it have been once or twice rejected.

Should these measures fail to afford relief, a hypodermic injection of morphia will have to be given, and it would be as well to send for the doctor. Half a grain of morphia—that is, six minims of a one-in-twelve solution—injected under the skin of the forearm will usually afford relief. This is the full dose, and should not be exceeded. When much laudanum or opium in any form has been administered, rather less morphia should be injected, say four or five minims. The great advantage of the hypodermic injection of morphia is that it acts so promptly. It must not be given to children or young people. When a hypodermic syringe is not at hand, a pill containing a grain of solid opium, or a quarter of a grain of morphia, may be given every two hours till three doses have been retained, or the pain subsides. If the patient is at all drowsy he is not to have any more opium or morphia in any form.

Belladonna is another very excellent remedy, and is indicated when there is any reason for not giving opium. Four pills may be ordered, each containing half a grain of extract of belladonna, and one of these may be given every two hours. A subcutaneous injection containing one-sixtieth of a grain of atropia—the active principle of belladonna—with a quarter of a grain of morphia may be administered, and repeated if necessary every two hours. We should advise that such remedies as these should be given only by a doctor; but a patient is

often placed in circumstances in which it would be impossible to obtain skilled medical assistance, and yet it is felt that something must be done to relieve the pain.

The inhalation of a little ether or chloroform will, even in very severe cases, afford almost immediate relief. We prefer ether to chloroform. About twenty drops should be placed on a piece of lint or on a handkerchief, which should be held some three or four inches from the nose, and the vapour gently inhaled; it may be repeated after a short interval. The object is not to render the patient insensible, or to get him under the influence of the anæsthetic—that should be carefully avoided—but simply to relax the spasm and ease the pain. The patient is not to use the ether or chloroform himself, but some one is to do it for him. Four or five drops of nitrite of amyl inhaled in a similar way will often prove efficacious. When the patient flushes in the face, he is under the influence of the amyl, and requires no more. It often produces a peculiar sensation of pulsation in the head, but never insensibility. At first there will be no occasion to check vomiting if present, but when there is frequent and severe retching attended with pain, it will have to be stopped. The bismuth mixture (Pr. 18), with or without the addition of three minims of dilute hydrocyanic acid to each dose, soda water, or sucking ice will often succeed. Purgatives are of little use in expelling the stone, and simply exhaust the patient.

What means must you take to dissolve or prevent this formation of gall-stones? What are you to do when your attack is over to guard against another? The great thing is to take saline purgatives and alkalies dissolved in large quantities of water. If you can afford it and spare the time, go to Carlsbad, Marienbad, Homburg, or Vichy, and drink the waters there; if you cannot get away you must use the Carlsbad salts at home. They should be dissolved in a large quantity of water—two or three pints—and taken tepid; you will soon be able to determine the dose for yourself. It should be taken in the morning before breakfast, the drinking being prolonged over an hour or more, and if possible combined with out-door exercise. It is very essential to adopt a dietary similar to that in use at Carlsbad. Breakfast, which is taken about an hour after the waters, consists merely of weak tea or coffee, with milk and a little sugar, and small, well-baked rolls, or stale bread. Dinner is taken at one, and consists of soup free from fat or spices, and thickened with barley, rice, or vermicelli; meat, such as beef, mutton, lamb, poultry and game, with boiled fresh vegetables; and a light, simple pudding, or compôte of stewed fruit. A cup of coffee may be taken in the afternoon, or a light supper at eight. The following articles of diet are forbidden: fat, butter, cream, pastry, cheese, pork, goose, sausages, salmon, mackerel, herrings, anchovies, entrées of all kinds, spices, pepper, onions, garlic, dressed salads, cucumber, uncooked fruit, and spirits. Nothing stronger than light claret is to be taken to drink, and even this should be avoided if possible. Smoking is allowed, but in the strictest moderation. The treatment is to be continued for thirty days. This plan can be carried out just as well in England as in Bohemia, although there are of course decided advantages in obtaining change of air and scene.

In addition to these measures it will be necessary to attend to the digestion and general health. Small doses of blue-pill are sometimes useful ; it seems to increase the quantity of bile, and at the same time to render it more healthy, and certainly it improves in a striking manner the general health.

GATHERINGS.—(*See DOMESTIC SURGERY.*)

GIDDINESS.

Giddiness or vertigo, as it is technically called, occurs in two different forms : in one the patient feels giddy, but objects about him remain stationary ; in the other external objects assume various abnormal positions—for example, articles of furniture in the room, or the patterns on the paper, seem to chase each other round the apartment, or in rare cases the vehicles in the street appear upside down, or the pavement undulates or feels elastic. The patient on attempting to walk sways from side to side, and can preserve his balance only by a strong effort of the will. There is a perpetual fear of falling down, and of coming in contact with other people or surrounding objects. In slight cases vertigo occurs only on movement ; in severe ones when at rest also, and even during sleep.

The sufferer from giddiness often experiences other anomalous and distressing sensations. Sometimes he sees only halves of things, or everything may seem double. One woman assured us that she always saw two cabs or two omnibuses in the street instead of one. The images were so distinct that she was often unable to distinguish the real from the imaginary. This was inconvenient, for she sometimes hailed the wrong omnibus by mistake. She said that if she were going up a hill, and a cart were in front of her, she saw a long line of them. This patient was somewhat prone to exaggeration, but we have no doubt that her statements were in the main correct. Sometimes this double vision is a precursor of paralysis. We are told of a sportsman who one day, when out shooting, disputed with his gamekeeper as to the number of dogs they had in the field. He asked him how he came to bring so many as eight with him. The servant assured him that there were but four, and then the gentleman became at once aware of his condition, mounted his horse, and rode home. He had not been long in the house when he was attacked with apoplexy, and died. This, of course, is an extreme case. Some people who are subject to vertigo are also deaf, whilst in others the hearing is abnormally sensitive. With some the noise of passing vehicles assumes the intensity of thunder, whilst with others ordinarily loud sounds appear clear, but soft and distant. Sometimes in addition to the giddiness there is singing in the ears, it may be low like the hissing of a tea-kettle or loud like the working of machinery, or perhaps rumbling like the passing of a distant train. These noises may be always present more or less, but usually they are loudest during an attack of giddiness. Vertigo may be due to brain disease, but in a great number of cases it arises from disorder of the stomach or liver. Sometimes it occurs quite suddenly, the sufferer being at the time apparently in a state of perfect health. Often enough an attack may be distinctly

traced to an imprudent indulgence in some particular article of food. When it comes on at night a heavy dinner or a hasty supper will often account for it. In the case of a gentleman who was suddenly seized with giddiness whilst walking in the street, the attack was attributed, probably correctly, to his having eaten very heartily of sausages and Devonshire cream at breakfast. It would seem that in many cases digestion progresses satisfactorily up to a certain point, when owing to some temporary excitement or worry the process is suspended, the stomach is upset, this causes disorder of the circulation in the brain, and the result is an attack of giddiness. Even when no special exciting cause can be detected the attack is often stomachal in origin. It may happen that the patient feels assured that his digestion and liver are in perfect working order, and yet for all that treatment directed to those organs will effect a cure. Stomach giddiness differs in several important respects from giddiness resulting from brain disease. Thus it is never associated with loss of consciousness, and at times the patient is perfectly free from it. It is increased by excitement, by long fasting, and usually the severe attacks occur when the stomach is empty. A stimulus in the form of wine or brandy affords relief, and so does food taken in moderation. Sometimes, though not always, closing the eyes, or gazing steadily at some fixed object, mitigates the intensity of the sensation or affords temporary relief. In some cases the giddiness is slight but almost constant, but more frequently it comes on in paroxysms lasting from a few minutes to an hour or more.

Another cause of giddiness is over-work. It occurs chiefly in those who, in addition to being over-worked, are not too well blessed with this world's goods. Those who are in comfortable circumstances and well fed may do many things with impunity which soon tell on those who are ill-clothed, badly lodged, and have not enough to eat. This kind of vertigo is common enough in hospital practice, the victims of it being very often poor seamstresses and others in a similar position of life. The attacks are usually of short duration, they occur at intervals of some hours or days, and especially after prolonged exertion, or poorer diet than usual. People in a rather better social position sometimes suffer from this form of vertigo, and it is then usually associated with a want of clearness of intellect, and an incapacity for sustained mental exertion. Sometimes irritability of temper, restlessness, a sense of impending evil, and more rarely sleeplessness are complained of. Sometimes the giddiness is induced by the appearance of objects in motion, and this may occur with such frequency that the patient is practically confined to the house. It is probable that in many of these cases there is a general state of debility or want of vitality, of which the giddiness is only one of the exponent symptoms.

Sometimes swimming in the head depends entirely on disease of the ear. These cases are comparatively rare, but we have met with two or three very striking instances. There is usually an association of vertigo on movement, with singing in the ears and partial deafness. This combination of symptoms is sometimes known as Ménière's disease, after the French doctor who first described it. Persons in fair average health, and without any stomach or other obvious disorder, usually suffer most.

Giddiness occurring in the aged often arises from the stomach, but is frequently

met with independently of any disturbance of that organ. As years go by the vessels of the brain lose their elasticity, and the circulation becomes irregular, so that there is congestion in one part and deficiency of blood in another.

In persons under fifty years of age, giddiness is not a complaint that need give rise to much anxiety. There is no danger to life—the fear of apoplexy or paralysis is as a rule unfounded. Sudden and violent attacks of vertigo, however unpleasant they may be, are seldom dangerous, and in the vast majority of cases depend on some disorder of the digestive organs. In persons over fifty the occurrence of vertigo for the first time calls for strict investigation. A constant sense of uncertainty in movement, a susceptibility or inclination to giddiness from the motion of passing objects, especially if combined with a cloudiness of intelligence, is not a favourable omen. When a severe attack without obvious cause occurs to a person advanced in life, the greatest care must be taken, the more so if it be associated with vomiting, or constant nausea, tingling of the extremities, or pins and needles in the hands or feet. It may be laid down as a rule that the longer the complaint has existed in any given case, the less likely is it to prove dangerous.

Giddiness occurring in people below the age of forty often yields readily to remedies directed to the liver and stomach. It is a good plan to begin treatment with a blue-pill at bed-time, and a black draught or dose of rhubarb in the morning. If the bowels show any tendency to become constipated, they may be kept in order with Friedrichshall water. For correcting acidity and improving the tone of the stomach, the gentian and soda mixture (Pr. 14) should be taken in two table-spoonful doses three times a day, half an hour before meals. The addition of five minims of tincture of *nux vomica* to each dose often increases its efficacy. Food should be taken in small quantities, and should be well and frequently masticated. Should the teeth be decayed they should be seen to at once, and the skill of the dentist must be resorted to for supplying any that may be wanting. A man often dates his restoration to health from the time he had a set of false teeth. Probably the best thing to drink is Vichy water, with a little brandy in it at meals. Malt liquors are, as a rule, to be avoided. The tub in the morning, regular hours, sleeping on a mattress in a large airy room, and out-door exercise, are great adjuvants to treatment. We need hardly say that freedom from the cares and anxieties of business is very desirable; even should the vertigo prove to be not stomachal in origin, this preparatory treatment is likely to do good, and in the majority of cases it alone will effect a cure. Should anæmia be present, iron (Prs. 2, 3, 6, or 7) is indicated.

In vertigo from mental anxiety or over-work, bromide of potassium (Pr. 31) often does a great deal of good. This remedy is also indicated in the giddiness occurring in women about the period of the change of life. When poor living and scanty food are the accompaniments of over-work, we gain more from measures directed to the improvement of nutrition. Generous living and a moderate allowance of a good full-bodied wine do more good than anything. In addition, Parrish's Chemical Food, ammonia and bark (Pr. 13), or the quinine mixture (Pr. 9), may be employed as adjuncts. In some instances very great benefit is derived from the syrup of hypophosphite of lime (Pr. 55).

When there are threatenings of paralysis, caution must be employed in taking

stimulants, although we should certainly not advocate a lowering mode of treatment. We want to give tone to the system, and improve the general nutrition, and not to increase the debility. For the vertigo of old people nothing does better than cod-liver oil taken in tea-spoonful doses three times a day.

There are other remedies which are of use in special cases. Thus, we have sometimes obtained good results from the administration of tincture of gelseminum in five-drop doses in water, every three hours. Sometimes ten drops will succeed when the smaller dose has failed. In vertigo accompanied by congestion of the face, belladonna (Pr. 39) often does a great deal of good. It is to be given when the giddiness is worse on movement but relieved in the open air. Heavy drooping eyelids, dimness of vision, and flashes of light before the eyes, are indications for its use, as are also a hot head and a sensation of burning in the eyeballs. The internal administration of belladonna may be accompanied by the application of a belladonna plaster over the region of the heart.

For Ménière's disease carefully syringing the ears with tepid water does good. Sometimes the application of a small blister behind the ear is attended with good results. A combination of belladonna and gelseminum may sometimes be given with advantage.

GIN-DRINKER'S LIVER (CIRRHOSIS OF THE LIVER).

The most frequent cause of this complaint is spirit-drinking. When alcohol is introduced into the stomach in the ordinary way, it nearly all passes through the liver. Undiluted spirits are much more injurious than when mixed with water, and produce greater irritation. Alcohol consumed as wine or beer is far less destructive to the liver than when taken in the form of ardent spirits. A hot climate intensifies all the vicious effects of alcohol.

The symptoms of cirrhosis of the liver are in the early stages often obscure, but later they are sufficiently well marked. At first the liver gets slightly enlarged, and the patient suffers from pain in the right side, indigestion, wind, and costive bowels. He is occasionally feverish, his skin is hot and dry, and he has a peculiar unhealthy sallow look, which he probably fails to notice, but which is sufficiently obvious to his friends. The necessity for making a change in his habits is forced upon his attention, and for a week or two he is under the doctor's orders, and not feeling able to drink any more, he consents to follow a restricted diet, and to take a course of purgatives. Soon the most prominent symptoms are relieved, he fancies himself well again, and quickly returns to his old habits. Gradually, however, he notices that he is getting thinner and weaker, and occasionally he has a good deal of pain in the side. He is nervous and out of sorts. He has no longer the pluck he used to have; first his friends notice it, and then he gradually becomes aware of it himself. He finds that he is not "fit for business," and he is afraid to see people. If a tradesman, he no longer displays his old energy. He is anxious about his business, for it is falling off, and things don't work as well as they used to, and yet for the life of him he cannot pull himself together. Things go on like this for months and months, or even for a year or two. The patient has occasional attacks of diarrhoea, his appetite fails, his urine gets thick and scanty, and the emaciation and debility



A. Femur.
B. Tibia.

C. Fibula.
D. Patella.

increase. He tries all kinds of treatment, but never sticks to one for long at a time. He consults every one of any note in London, but derives little if any benefit from their advice. The majority of them express no opinion as to the nature of the complaint, but hint in a guarded way that he should take nothing but light claret. Finally, some one bolder than the rest tells him it is all drink, and that he will get better if he will only become more abstemious. The advice is considered an act of impertinence, and is promptly disregarded, although the patient feels in his heart of hearts that it is right. He would give up the drink if he could, but he can't. His self-reliance is gone, the alcohol has stolen away his will, and he is utterly incapable of giving up the dangerous fascination. He will take an oath to-day that he will never touch another drop of spirit, and will probably break it to-morrow. Sometimes he wishes that some one would lock him up in an asylum, or that by some chance or other he could have six months' imprisonment, but he never feels able to put himself under restraint. After a time the liver gets smaller, and this, instead of being a good sign, is a bad one, for it is contracting. The belly begins to swell, and gradually fills with a dropsical effusion. He now feels that he cannot get about any more, and has to take to his bed. Doctors come to see him, he has the best of advice, but they can do little or nothing for him. He would willingly enough consent to knock off drink now, but it is too late; the mischief is done, the liver is in a state of cirrhosis, and no medicine can restore it to its natural condition. The fluid in the belly gradually increases in quantity, and after some months of suffering the patient dies from exhaustion. Is there any remedy for this horrible complaint? Yes, one, teetotalism—absolute abstinence from alcoholic liquors of all kinds. This remedy must be applied early. If you wait till your liver has undergone serious organic change, it is too late. No half-measures will suffice; you will have to give up drink of all kinds. Do this, and you will recover; go on on your old plan, and you will quickly die a painful and degrading death. If you feel that your will is so weak that you cannot be trusted, get your friends to put you in an institution for dipsomaniacs for a month or two. It would probably save your life. There is never any danger in cutting off drink quite suddenly. For a day or two you will feel terribly depressed, but this will soon pass off. The craving for stimulants may often be allayed by some bitter infusion, say of gentian or cascarilla, containing three or four drops of tincture of *nux vomica* or ten drops of *sal volatile* or tincture of ginger to the dose. The perchloride of iron mixtures (Pr. 1 or 2) often serve this purpose better than anything.

Attention to the diet is also of importance. This ought to consist of such articles as milk, eggs, plainly-cooked white fish, meat, poultry, and game. Rich sweets and greasy dishes, as well as hot spices and indigestible foods of all kinds, are strictly interdicted. Regular exercise in the open air and attention to the bowels are to be enjoined.

GOUT.

The phenomena which constitute gout are, we fear, only too familiar to many of our readers.

In many cases the first attack comes on without any previous warning, but

sometimes it is preceded by some disorder of the stomach, such as diminished appetite, flatulence, heartburn, or nausea. As a rule, the patient who may have gone to bed and to sleep in his usual health, and without any suspicion of the sufferings in store for him, awakes about three in the morning with a severe pain in the foot, usually in the ball of the big toe. He attempts to get out of bed, but finds that he cannot put his foot to the ground, or if he succeeds in so doing, the act is accompanied with very great pain. On examining the affected joint, it is found to be hot, red, swollen, and exquisitely tender. The veins proceeding from the toe are turgid with blood, and the joint is stiff. The pain is so great that the weight of the bed-clothes is insupportable, and the mere vibration of the room causes discomfort. The pain is usually spoken of as being of a most agonising description. It is described as a grinding, crushing, wrenching pain, and is sometimes likened to a red-hot iron being suddenly thrust into the joint. The pain is attended with great restlessness, and the patient in his vain search for relief is perpetually shifting his foot from place to place, and from posture to posture.

There may be no constitutional disturbance, but usually the pain is ushered in by more or less cold shivering, followed by heat of skin, perspiration, thirst, loss of appetite, a white furred tongue, and confined bowels. The urine is small in quantity, high-coloured, and deposits on cooling a pinkish or reddish sediment.

If moderate precautions are taken, and the foot kept up on the bed or couch, the inflammation subsides in the early part of the day, but it usually gets worse towards evening, and for the greater part of the night the patient is kept awake by the pain, which, however, again subsides as morning advances.

In a few days relief is obtained, and the tension and swelling are diminished, as well as the heat and redness. The skin usually peels off in the neighbourhood of the joint, occasionally in flakes of considerable size, the process being attended with troublesome itching. The duration of the joint inflammation varies considerably in different cases, and is much influenced by the diet and mode of treatment adopted. Occasionally it lasts ten days, or even longer, but if care be taken it may usually be got rid of in from four to five days. After the attack is over the patient not uncommonly feels all the better for it, and says it has done him good. He very frequently enjoys greater ease and alacrity in the functions both of body and mind than he had for a long time previously experienced.

The disorder which has thus departed almost inevitably returns. At first it may not recur oftener than once in every three or four years, but after a time the intervals get gradually shorter and shorter, till the attacks become annual, happening about the same time every year, and finally they return several times during the course of the autumn, winter, and spring. As the fits increase in frequency their duration becomes protracted, so that in an advanced state of the disease the patient is, with the exception of a few months in the summer, scarcely ever free from it.

As we have already said, the ball of the great toe is commonly selected as the first seat of the disease, but occasionally this joint escapes altogether. An old injury to a joint, as, for example, a stiff knee resulting from a fall from a horse, will attract gout to the damaged part, and will moreover cause it to linger there

longer than in other localities. It is often said the gout differs from rheumatism in implicating the smaller joints of the body. This is true, if reference be made solely to the earlier attacks, but after a time the larger and smaller joints are indiscriminately affected. In severe cases there may be scarcely a joint which has not been attacked at some time or another. The hips and shoulders are the least liable to be attacked, but even they do not always escape. After the earlier attacks the joints soon recover their former strength and pliancy, but when the disorder has recurred again and again, they are not so readily nor so completely restored to their previous condition, but remain weak and stiff, and sometimes they lose at length their capacity for motion altogether. It is a curious and at the same time a fortunate circumstance, that however active the inflammation may be, it never runs on to the formation of matter. The only exception to this is in cases where there has been a chalky deposit in the joint, and then the matter arises from the irritation caused by the presence of the foreign body, and is not directly owing to the gout.

As we have said, an attack of gout is sometimes ushered in by irritability of the stomach. In many gouty people, however, irritability of the temper is a more common symptom. You often hear a wife say of her gouty husband that she knows he is going to have one of his bad attacks, for "he has been like a bear with a sore head for the last day or two." Palpitation of the heart is experienced by some people on the eve of a gouty seizure, whilst others suffer from a kind of asthma. It is not uncommon to find some derangement of the bowels, and this may take the form either of diarrhœa or constipation.

The amount of fever, or in other words elevation of temperature, which accompanies the actual attack is always in direct proportion to the number of joints affected. It is always secondary, occurring as the result of the inflammation.

In old long-standing cases of gout, "chalk-stones" not unfrequently make their appearance around the joints. This chalk-like matter is deposited at first in a half-fluid state resembling cream or soft mortar, and it then gradually becomes dry and hard. These concretions are not really composed of chalk, but of a substance known as urate of soda. It is often deposited around the knuckles, and it is said that people who are inclined to make the best of a bad job have been known to utilise their affected joints to chalk or score the game upon the table whilst playing cards. These chalky deposits not uncommonly cause such deformity of the hands that their natural shape is completely lost, and they are for all ordinary purposes of life practically useless. Sometimes the fingers are swollen to such an extent that they look for all the world like a bunch of carrots with their heads forwards, the nails taking the place of the stalks. When these deposits are seen, no doubt can ever exist as to the nature of the complaint from which the patient is suffering. Curiously enough, a little chalk-stone is not uncommonly found on the ear just at the margin. In all doubtful cases of gout it is as well to examine this region, for if this deposit is detected, the nature of the complaint is clear.

There are several varieties of what is called "irregular" gout, and of these the most common is gout in the stomach. The attack usually commences in the ordinary way with inflammation of one of the joints, but the pain—which is never very

intense—quickly and abruptly subsides, its disappearance being accompanied with disturbance of the stomach, usually indicated by sickness, vomiting, and pain or spasm of that organ. There is a very prevalent opinion that if a person be exposed to a chill or catch cold whilst suffering from gout, the disease is “liable to be driven inwards,” and there is no doubt that under these circumstances very disagreeable, or even dangerous, symptoms may arise.

In certain rare cases, apoplexy, epilepsy, and mania have resulted from gout. Neuralgia and sciatica are far more common under these circumstances. Skin eruptions are very common in gouty people, and in many instances the skin and joint affection are suffered from alternately. Gravel and stone are also common; but, possibly as a set-off against this long string of evils, the gouty very rarely suffer from consumption.

There are few diseases which are more distinctly hereditary than gout. Its tendency to run in families must have been noticed by the most casual observer. It is certainly true, as regards this malady, that the sins of the fathers are visited upon the children to the third and fourth generation. It is said that gout frequently skips a generation, and that it more commonly attacks the grandchildren than the children. The explanation of this is in many cases sufficiently simple. Frequently the child of a very gouty father, having his bad example constantly before his eyes, would lead such an abstemious life as to keep the foe at bay; but the grandchildren, being fully under the hereditary influence, but not having the advantage of the “frightful example,” take no special precautions, and very soon fall victims to their ever-watchful enemy.

Gout is almost exclusively a disease of the male sex. This exemption, or rather comparative exemption, is probably dependent more upon certain periodical functional peculiarities of the female sex than upon any essential difference in their mode of life. It has been frequently noticed that women who suffer from gout are robust, full-blooded, and of a masculine turn both of body and mind. Gout, when it does occur in women, very rarely makes its appearance till after the age of forty-five.

Gout is rarely met with in either sex in people under thirty. To this rule there are, however, exceptions, for gout has been known to occur in boys of sixteen whilst at school. There can be but little doubt that in these cases a strongly inherited predisposition must have been fostered by a mode of life not of the most abstemious.

It has never been conclusively shown that what we call temperament exerts any special influence on the development of gout, but still there is a very general opinion that it most commonly attacks men of robust and large bodies, and of full and corpulent habits.

The disposition to gout may be engendered, and when inherited will be infallibly strengthened and developed, by certain habits of life. Excessive indulgence in alcoholic beverages must rank first and foremost amongst the circumstances which are directly under the control of the individual. Distilled spirits, such as gin and whisky and brandy, have less tendency to induce gout than either wine or malt liquors. Among the labouring classes in London, gout is by no means uncommon, whilst in the corresponding class in Edinburgh and Glasgow it very rarely occurs.

There can be but little doubt that the explanation is that amongst the former ale and porter are the popular beverages, whilst the latter confine their attention almost exclusively to whisky. In many of the large cities on the Continent, where the lighter kinds of claret form almost the sole alcoholic beverage, gout is very uncommon.

It is a well-known fact that excessive indulgence in food, more particularly in animal food, is very favourable to the production of gout. It has been noticed that those who live upon an exclusively vegetable diet hardly ever suffer from this disease. Sedentary and luxurious habits are favourable to its development.

Many people seem to imagine that it is a mark of distinction to have had the gout, something to be proud of and to boast about. This absurd notion evidently originated in the fact that it is essentially a disease of the upper and middle classes, and that it is peculiarly incidental to the wealthy and indolent. We sometimes hear of "poor man's gout," but this, in nine cases out of ten, means rheumatism. When we find a case of gout in any of our hospitals, the patient will generally prove to be a servant in a gentleman's family—people who are seldom total abstainers.

Brewers' draymen are not uncommonly attacked, and usually attribute their sufferings to the "smell of the beer." Gout is also fairly common among the "ballasters" on the Thames, but as they habitually consume two or three gallons of porter daily the cause is not very far to seek.

Painters, plumbers, and others whose occupations expose them to the influence of lead and lead-poisoning, often become the subjects of gout. It has even been found that the prolonged medical use of sugar of lead, as in cases of bleeding from the nose or stomach, or other part, may, in people of a gouty habit, occasion an attack.

A fit of gout may be brought on by various circumstances. An unusually severe debauch may act as the exciting cause. Depressing emotions, and over-fatigue, particularly when produced by too long a walk, may be followed by the same result. In fact, anything which depresses the general bodily health favours in a gouty subject the production of an attack.

The influence of climate and season on the production of gout is well marked. The complaint is far less prevalent in hot than in cold or temperate regions. A gouty individual may often escape his accustomed winter attacks by spending the colder months of the year in Egypt or Malta. The increased functional activity of the skin in hot climates is in all probability the cause of this exemption.

An acute attack of gout in one of the joints is probably never fatal, but when the disease becomes chronic it has an undoubted tendency to shorten life. The appearance of gout is always a serious matter, and should never, as some people seem to think, be regarded as a matter for congratulation. The earlier the age at which gout first makes its appearance, the more serious are his future prospects, particularly when the complaint is hereditary. The appearance of chalk-stones, even in the most trivial form, is an unfavourable sign.

Can gout be cured? We believe that if the patient will only take warning by his first attack, and make a thorough alteration in his habits and mode of living, the disease may be entirely eradicated from the system, and will never return. We know of no drug or combination of drugs which, unaided, is capable of effecting this result.

The only real remedy, abstemiousness, is in the patient's own hands, and if he refuses to use it, it is his own look-out.

What should be done in an attack of acute gout? In the first place, the patient must be kept in a warm room, as quiet as possible, and should on no account be allowed to make any attempt to get about. The diet must be of the simplest possible description, but milk, arrowroot, tapioca, sago, biscuits, toast, toast-and-water, and other similar articles may be taken without restriction. The affected member should be wrapped in flannel, and should be kept strictly in the horizontal position, never being allowed to hang down or support its own weight.

When the pain is very severe, contractile collodion, which may be advantageously mixed with a little tincture of iodine, painted over the inflamed joint, will speedily give relief, although at first the pain may be temporarily increased. Care must be taken not to apply too many coats of the collodion, or the contraction produced may be too great, and it may do more harm than good.

Colchicum is undoubtedly the best internal remedy both for acute and chronic gout. A drachm of colchicum wine given in a little water will often remove the severest pain in the course of an hour or two. By some the administration of a drop of colchicum wine every twenty, thirty, or sixty minutes is preferred, but these smaller doses take much longer before they produce the desired effect. When there is much acidity of the stomach, the colchicum may be advantageously given with a little carbonate of potash or other simple alkali. In all cases in which the bowels are confined a free evacuation should be obtained. A compound colocynth pill (Pr. 60), or a seidlitz powder, or the white mixture (Pr. 25), will usually answer admirably. Mercury and its compounds should be given with considerable caution to gouty people, as in them it often produces very unpleasant effects. The hot air or vapour bath may prove useful in promoting the action of the skin.

In chronic as in acute gout, the remedy on which we place the greatest reliance is colchicum. The action of this drug in curing gout is as marked as that of quinine in curing ague. Some people appear to have an unfounded prejudice against the use of colchicum; if judiciously administered it can never by any chance do harm. It must always be borne in mind, however, that colchicum is merely palliative, relieving for a time the patient's sufferings, but in no way protecting him from a recurrence of his attacks. Some people say that colchicum whilst it cures one attack hastens the return of another, but we believe that there is no truth in this statement. In chronic cases twenty drops of colchicum wine may be given in water every four hours until relief is obtained.

In old-standing cases where colchicum has not succeeded so well as might be wished, a tea-spoonful of the ammoniated tincture of guaiacum given three times a day in a little milk may prove useful.

When the pain is distinctly worse at night, or is experienced only at that time, the colchicum wine may be administered in combination with the iodide of potassium mixture (Pr. 32). Iodine liniment painted over and around a joint swollen from gouty inflammation will often do good.

In China, oil of peppermint is used as a local application, and the relief is said to be almost instantaneous.

A cold wet linen compress, constantly applied and frequently renewed, will do much to relieve a painful joint.

The Turkish bath is particularly valuable in chronic gout, but, as might be expected, it is not always equally serviceable. In long-standing cases, where the attacks have occurred so frequently as to distort the joints by deposits, and the patient is, perhaps, liable to repeated relapses, and is scarcely ever free from pain, the efficacy of the bath, though striking, is less apparent than in milder and more tractable forms.

Of late years lithia has been extensively used for the removal of the chalky deposits, particularly when the skin is broken. The urate of soda, of which they are composed, is readily dissolved by carbonate of lithia, and if a solution of this salt of the strength of five grains to the ounce of water be employed, they may in time be removed. The affected joints must be constantly enveloped in lint or rag kept moist with the solution. In many cases this method of treatment has proved very successful, and not only have considerable enlargements been removed, but suppleness and even free movement have been restored to previously stiff and useless joints. The treatment is necessarily somewhat tedious, and many weeks, or even months, may be required to remove large deposits. The local application may be supplemented by the internal administration three times a day of eight grains of carbonate of lithia dissolved in any aerated water, or the citrate of lithia may be given in the same or larger doses.

We must now consider the treatment which should be adopted by gouty patients in the intervals between their attacks. A few general rules will be given, and they will be found more especially applicable to those who suffer from chronic gout.

A good plain solid diet should be adopted, but care should be taken to avoid excessive indulgence in animal food. It is hardly necessary to say that the patient should never eat anything which he knows disagrees with him, or causes unpleasant symptoms of any kind. As a rule, what are called "made dishes," and all rich and highly-spiced food, should be tabooed. Pork and veal, and all salted or potted meats are more or less indigestible, and must be regarded with suspicion. Beef and mutton, white fish, fowl, and game are nearly always admissible, so that the patient is in no danger of starvation.

There should be a due admixture of animal and vegetable food; and potatoes, greens, peas, beans, and the like, may be taken with advantage. The softer kinds of fruit, such as strawberries, grapes, oranges, and baked or stewed apples and pears, will, if taken in moderation, do no harm, but plums and other stone-fruit should, when uncooked, be avoided.

Sugar and sweets of all kinds lead to the production of acidity, and favour the development of gout.

As to beverages, tea, coffee, and cocoa are in most cases admissible. Young people can usually get along very well without stimulants of any kind, and we should strongly advise any person in whom gout makes its appearance at an early age to become a total abstainer. In the case of old people with health broken by disease and long suffering, a certain amount of alcohol is necessary. All malt liquors are to be eschewed. The wines to be most carefully avoided by the gouty

are port, sherry, and madeira. Sherry, however dry and pure, is by no means the innocent beverage, as far as the production of gout is concerned, that some people seem to imagine. The best wine to take is a good sound claret, free from sugar and without acidity.

Probably the best drink for a gouty patient is brandy, taken in strictly limited quantities, and freely diluted with water. Whisky, hollands, or gin, may in some cases be substituted, but the change should be made with a certain amount of caution. The spirit-and-water should be taken solely at meal-times. The quantity consumed in the course of the day will vary in different cases from one to three fluid ounces, the exact amount being dependent to some extent upon the previous habits of the patient.

Exercise should be regularly and habitually taken, and walking may be advantageously combined with riding. Excessive fatigue always does far more harm than good, and should be guarded against.

Early and regular hours are of much importance, as is the avoidance of all severe mental application. The importance of plenty of fresh air in maintaining health and warding off attacks cannot be over-estimated. Removal to a warm, dry climate during the colder months of the year will in many cases enable the patient to escape his autumn and winter attacks.

It is extremely difficult to lay down any general rules for the treatment of the irregular forms of gout, such for instance as gout in the stomach. The personal attendance of a medical man will, in most of those cases, be found necessary. The administration of colchicum wine is usually advisable in the irregular as in the more orthodox forms of gout.

GRAVEL.

A patient is said to suffer from gravel when he passes solid matter with his urine, whether in the form of powder, grit, or sand. The term is not applied to those cases in which the water is clear when recently voided and still warm, but throws down a powdery sediment as it cools, which sediment redissolves on warming the urine before the fire or in any other way that may be convenient. There are several different kinds of gravel, but in the large majority of cases the deposit consists of uric acid, which is thrown down in the form of red or yellow sand. If carefully examined this deposit will be found to consist of little crystals, resembling in shape, size, and colour Cayenne pepper. The urine is, at the same time, bright and of a dark golden or coppery colour, like brown sherry. Sometimes it feels hot and almost scalding as it is being passed. It is more acid than perfectly natural urine, and turns blue litmus paper a bright red colour. Often enough the quantity passed is below the average, and the specific gravity or density will be found to be higher than natural. This deposit must not be confounded with the pale pink sediment so often seen at the bottom of the utensil on a cold winter's morning. That is never deposited until the urine has had time to cool, and is immediately redissolved when the urine is warmed up to about the temperature of the body. True gravel cannot be made to disappear in this way. Moreover, the latter does not render the whole of the urine turbid when shaken, but rolls over at the bottom

when the vessel is slowly tilted so as not to trouble the general transparency of the water. With a little care no difficulty will be experienced in distinguishing true from false gravel.

There is no doubt that a tendency to the formation of gravel is hereditary. This hereditary tendency varies in force or strength in different families. Some people begin to pass gravel at thirty or sooner, others at forty, and again others not till they are sixty. As a rule, the earlier the age at which it makes its appearance, the stronger is the hereditary predisposition, and the more difficult will it be, in all probability, to effect a cure. There is a curious relationship between gravel and gout. Sometimes these two complaints seem to alternate, comparing one generation with another; thus, gout appears in the one, gravel in the second, gout again in the third, and so on. And the same individual may have alternate attacks of gout and gravel, and this is by no means uncommon. The majority of people who suffer from this condition live an indolent and luxurious, if not an intemperate life. Adults are peculiarly obnoxious to it after the age of forty. They are usually in addition troubled with transient twinging pains in their limbs, and often during an "attack of gravel" suffer from pain in the back and a general sense of discomfort. Some people pass gravel daily and habitually, whilst others do so only every few weeks, but then in considerable quantity. These attacks occur at varying intervals, and usually increase in frequency and severity unless treatment is resorted to.

The presence of gravel in the urine is not to be regarded as an indication of kidney disease. In the vast majority of cases it means simply that the liver is inactive. It fails to perform its duty as an excreting organ, and the result is that an extra amount of work is thrown on the kidneys. In the case of people who suffer from gravel it will usually be found that the bowels are sluggish, that the appetite is impaired, and the digestion is performed imperfectly. These may not be very prominent symptoms, especially if the diet be carefully selected, and the patient is able to take plenty of exercise and pass most of his time in the open air, but still they are always present more or less.

It is obvious from what we have said that our treatment should be directed rather to the liver than to the kidneys. A most valuable drug in these cases is blue-pill. But still it must be remembered that gravel is essentially a chronic complaint, and one cannot indulge in blue-pill to an unlimited extent. We have consequently to look round for some drug or combination of drugs that will prove equally efficacious, but will be less likely to act injuriously on the system if continued for a considerable time. We find what we require in certain natural mineral waters, such as the Friedrichshall and Pullna, and of these the former is usually preferred, on the grounds that it does not purge too freely, that it does not gripe, and that it is not very disagreeable to take. The dose of Friedrichshall water is about half a tumblerful, and it should not be taken pure, but diluted with from a third to half of its bulk of hot water. A great advantage is that it may be taken for many weeks without losing its effect. It should be taken in the early morning, say an hour or so before breakfast; and then, after the cup or two of hot tea or coffee accompanying that meal, there is usually a full, free action of the bowels. Some people prefer the Marienbad water, which contains enough free carbonic acid to make

it an agreeable and slightly sparkling draught. Rather more than half a pint is required to produce an easy motion. The waters both of Vichy and Vals have attained a high position in the treatment both of gout and gravel. By many it is maintained that their action on the liver is slight, and that although patients are often better for a time after a visit to Vichy, they are not permanently benefited. There is no occasion to drink the waters at the spa, for the majority of them are imported, and may be obtained without difficulty. The course should extend over a period of from six to nine weeks. It may be said that this is an expensive mode of treatment; but it must be remembered that gout and gravel are essentially the heritage of the rich and well-to-do, and not of the poorer classes. The artificial imitations of the natural waters are of comparatively little value.

In addition to medicinal treatment the diet must be carefully regulated. In the first place, alcohol must be taken very moderately, and the lighter wines are to be preferred. Port, sherry, and champagne are unsuitable, and beer is absolutely forbidden. Probably the best drink for the sufferer from gravel is a light, sound Bordeaux, or a Rhine wine of similar quality. Sugar is strictly tabooed, and fat, butter, cream, and pastry are to be taken, if at all, very sparingly. Abstinence from those articles of diet will greatly lighten the work of the liver, and lessen the unnatural strain thrown on the kidneys. In some kinds of gravel, rhubarb, from the amount of oxalate of lime it contains, is especially injurious.

In many cases great benefit is derived from the simple expedient of taking a tumbler of cold water a couple of hours or so before dinner, and another on retiring to rest. It is found, too, as the result of practical experience, that a long interval should not elapse between meals, and that the period devoted to sleep should not be too prolonged. Many people suffering from gravel take a little bicarbonate or citrate of potash in a tumbler of water every night at bed-time and again on rising in the morning. This is simply a temporary expedient, and seldom does any permanent good. The great thing is to pay strict attention to diet. The following case forcibly illustrates the effects of good living on the production of gravel:—"A Dutch merchant had an ample fortune, and lived in accordance with his means, keeping a good table, and indulging in its pleasures freely. He was at this time tormented with gout and gravel. Unexpectedly he lost all his fortune, through a political crisis, and was obliged to take refuge in England, where he lived more than a year, almost in poverty, amid numerous privations, but his gout completely disappeared. Little by little he succeeded in repairing his affairs; he resumed his old mode of life, and the gravel was not long in reappearing. A second reverse robbed him in a short time of all he had gained; he passed into France almost without resources, and his regimen was consonant to his means; the gravel disappeared. Once again his industry restored him to a life of plenty and ease, and he abandoned himself again to the indulgences of the table, and with them appeared once more his old enemy, the gravel."

HAY FEVER—HAY ASTHMA.

This is a peculiar form of catarrh, or asthma, produced by the inhalation of the pollen of some kinds of plants, and especially grasses. It affects certain persons only, and in them it always comes on at the same time of the year—at the latter end of May, or in June, when the grass is in blossom, or when the vernal haymaking is going on. The disorder happens only at the one particular season, and the persons so attacked may not be particularly subject to catarrh at other times, or from ordinary causes. Usually there is headache, which is often severe, together with suffusion of the eyes, sneezing, irritation of the nose and back of the throat, and a dry, harassing cough. Then, at intervals there may be experienced attacks of asthma, lasting for two or three hours, the shortness of breathing being sometimes so urgent that the patient experiences the most distressing sensations of impending suffocation. First attacks of hay fever are generally milder and less persistent than the subsequent ones, the susceptibility apparently increasing year by year. In the early stages sneezing and running from the eyes and nose are the prominent symptoms, but subsequently the asthmatic element is superadded. If the affection be left to itself the duration is usually from three to five weeks, and even in cases most carefully treated the attack may last for a month. Persons who have once suffered, invariably have a return of it if exposed in ever so slight a degree to the exciting cause. The air wafted from Hampstead to central London will, in the haymaking season, often produce the habitual seizure. So exquisitely sensitive to the action of the pollen of grass are some people that the slightest exposure will induce an attack. A lady who suffered annually from this affection stated that a paroxysm was sometimes brought on by the approach of her children after they had been in a hay-field, and on one occasion this happened when the hay-harvest was over, upon their joining her at tea, after playing in a barn in which the hay of that year had been stored.

It is a curious circumstance that hay fever should be almost exclusively confined to the educated classes, but so it is. As an American writer humorously remarks:—"The complaint is not met with in the *plebs*, the *commune vulgus*, the *oi polloi*, but is patrician and aristocratic, and occurs mainly amongst those high in rank and social position, and eminent for mental and literary attainments. William IV of England, an English duke, Southey the poet, several learned divines, lawyers, medical men, and their wives, ex-mayors (!), bankers, and ladies of fashion are among the select few on whom it bestows its favours. The great Daniel Webster secluded himself every autumn at Marshfield to get through his season of trial, with what patience he could muster; and the distinguished Henry Ward Beecher annually vacates his pulpit for a season from the same cause; and certainly, if ever a clergyman had a good excuse for so doing it is he. Preaching even such as his would fail in its effects if interrupted at intervals by a succession of sonorous sneezes, paroxysms of cough, and asthmatic utterance, and a persistent aspersion of eyes and nostrils." It would seem probable that the condition of the nervous system engendered by mental training is especially favourable to the development of hay

asthma. Farmers, who are of necessity constantly exposed to the influence of pollen, rarely suffer from it. It is difficult to account for this immunity; by some it has been supposed that it is owing to the absence of the predisposition which mental culture induces, whilst others think that they are rendered insusceptible to the action of grasses by their constant exposure to its influence. However that may be, there is no doubt that an attack of hay asthma is a great trial of faith and patience, religion and philosophy, and enough at times, as some one once said, "to make a man curse his mother and turn Turk," if that be the *ultima ihule* of human turpitude. The man who could bear with equanimity the annoyances of hay fever would rival the fortitude of Guatimozin himself, who, when stretched upon live coals by his brutal conquerors, rebuked the complainings of his fellow sufferer by gently reminding him that "he, too, was not upon a bed of roses." The first attack often begins in childhood, and rarely occurs late in life. The complaint appears to be more frequent in men than in women, and there is reason to believe that the susceptibility to this troublesome affection runs in families. It is probably more common in this than in any other country. An analogous disorder prevails in some parts of the United States, where the rose is largely cultivated, and is known as "rose fever" or "rose catarrh." "Peach cold" is an affection of similar nature.

In many people an attack closely resembling that of hay fever is produced by dust in any form. A patient says:—"If in my walks I see men sweeping a street, and clouds of dust arising, I shun it as I would a rattlesnake; and if I see a building in process of demolition, I go half a mile out of the way to avoid it. I always walk on the shady side of the street if there be one, and select a well-watered street if possible, or keep well to windward. I cannot express the agony I have on certain occasions suffered from this cause, and I therefore confine myself within doors as much as possible. Dusts and draughts are my particular aversions. I cannot smell a rose or eat a peach unpeeled—the hairs irritate my fauces—without suffering an attack, and a pinch of snuff would I believe make me sneeze my head off. Nothing that I have ever snuffed up my nostrils has failed to injure me." In conclusion he adds, "I pray for rain with all the fervour of the old Scotch clergyman, without caring whether or not it should eventuate in a deluge."

An attack of hay fever may usually be cut short by removal from the exciting cause. A sojourn at the sea-side will palliate, and, for the time, often cure the complaint; but it is not every sea-side district that gives the hay-fever patient relief. A sea-side town deeply indented in the land is not a good place to choose, for it partakes more or less of the character of a bay. One should rather look out for some place situated on a promontory or peninsula, so that there is very little chance of hay-fields being in the neighbourhood. But wherever a patient may be at the sea-side, if the wind is blowing from the land, and if hay-grass is in flower at the time, he will be liable to be attacked by his enemy. It is therefore a matter of importance in selecting a retreat for the hay season to find some place where the prevailing winds are from the sea. It is also better to choose a spot where the sufferer can be continually near the water, and if possible a place where the shore is backed with high cliffs, because these act as a kind of screen when a land breeze is blowing. There are several places in this country which are recommended as

being suitable for the residence of the hay-asthmatic during the summer months. First and foremost among these is Lundy Island, near Ilfracombe, in the Bristol Channel. Then there are Lizard Point in Cornwall, the point of land near St. Mawes, and the point of land near her Majesty's residence at Osborne. Some parts of the Isle of Man, such for instance, as the district a little beyond Port St. Mary or Port Erin, would prove suitable. On the Welsh coast the district near St. David's Head is recommended. There are also some of the small islands off the west coast of Scotland which would give complete protection from attacks of hay fever. In America the great place of resort is Fire Island. This island is about twenty miles long by three-quarters broad, and is situated on the Atlantic side of Long Island; on one side a bay (the great South Bay) separates it from Long Island, and on the other is the broad Atlantic. Scarcely anything but a coarse, short grass grows there, and this is rarely seen in flower in any quantity.

A cruise in a yacht is almost a specific for hay fever, for it removes the sufferer from the cause of his suffering. Many noblemen and gentlemen of wealth who are afflicted with hay-fever, take to their yachts early every summer, and remain afloat till the hay is all in, and they thus escape the complaint altogether. Unfortunately the majority of people can afford neither the time nor the money to avail themselves of this mode of obtaining relief, but even a day or two's cruise will do good, provided always the vessel keeps well out from shore. In long voyages there is one point which is worth bearing in mind. Cattle and sheep are often taken on board ship, and, of course, require to be fed. In most cases the food consists largely of dried hay. In this way the hay-asthmatic may be thrown in contact with pollen, and have his complaint developed.

For those who cannot get to the sea the next best thing is to go to the centre of a large town, the larger and the more densely populated the better. It is a good plan, too, to keep in-doors as much as possible during the middle of the day. High mountain lands used only for grazing purposes will also be found good for hay-fever patients, although by no means equal to a well-chosen sea-side residence. Some parts of the Highlands of Scotland, as well as some of the mountainous districts in Wales, will be found to answer well.

When one cannot get away from home, the only thing is to trust to medicinal agents. One of these—tobacco—hardly merits that name; but for all that it is of all probably the most trustworthy. There is nothing during a paroxysm of hay asthma that has anything like the effect of smoking tobacco, and although this is especially the case in the later stage of the attack, when the asthmatic element is most developed, still, in the earlier stage, when the sneezing and running from the eyes and nose are prominent symptoms, tobacco-smoking exerts a very marked influence as a sedative. During the hay asthma season—that is, in the majority of cases, from about the 15th of May to the 10th or 12th of July—the sufferer should regularly smoke a cigar the last thing before going to bed, or, better still, when in bed. This night cigar is taken as a preventive. Tobacco will cure the asthmatic spasm when it is fairly on, but it requires a larger dose, and it must be taken in a stronger form. The sedative influence of the cigar will usually ensure a fair night's rest; but the powerful depression of strong shag tobacco is usually necessary to cut short

the spasm when thoroughly established. Even when the night cigar is taken it may be necessary to get up about three or four in the morning and light another, and during the last fortnight in June, this happens with many almost nightly. A hay-asthmatic should never smoke tobacco but for his malady. One soon gets accustomed to its influence, and it then loses its power of relaxing spasm. Distressing as are the sensations of collapse from tobacco-poisoning, they are unspeakable relief when contrasted with the sense of impending suffocation from asthma. A patient, in describing his feelings, says:—"I smoked one pipe, then another; and as my face blanched, and my pulse failed, and the cold sweat stood on my forehead, miserable as were the sensations of collapse they were paradise to the agonies of suffocation. I shall never forget those moments of relief." Many people who have been accustomed to smoke for years are not readily susceptible to the influence of tobacco, and they fail to obtain much benefit from its use unless they employ some device to secure its more potent effect. A good plan is the following:—Fill the mouth with tobacco-smoke, and then instead of blowing it out again at once as in ordinary smoking, retain it in the mouth for some seconds, perhaps a quarter of a minute, then take another mouthful and retain that, and so on. In this way the tobacco is more rapidly absorbed, and a state of depression quickly produced.

In many cases great benefit has been derived from taking ten drops of the tincture of *nux vomica* in half a tumbler of water three times a day.

Another good remedy is from three to five drops of arsenic solution (the liquor arsenicalis of the Pharmacopœia) in a little water three times a day. This is the dose for an adult, and should not be exceeded. It should be taken after meals, and is then less likely to upset the stomach.

Tincture of lobelia may be given during the asthmatic paroxysm with a fair chance of success. On any signs of an on-coming fit, ten drops of the simple tincture should be taken in water every ten minutes or a quarter of an hour, till relief is obtained. Sometimes it produces a little sickness or faintness, but this soon passes off.

A few drops of chloroform placed in the palm of the hand and inhaled during the attack will often cut it short. As a matter of precaution some one else should be in the room when this treatment is adopted.

In many cases of hay fever creasote inhalations have proved of service. The best strength is ten drops of creasote to a pint of hot water, the steam being inhaled. Sometimes a camphor inhalation does good. Ten drops of spirits of camphor, and twenty of rectified spirits, are to be added to the pint of hot water.

HEADACHE.

Headache is of necessity of common occurrence, since it is present as a prominent symptom in some part of the progress of most acute and many chronic illnesses. It would seem that the head is more given to aching than any other part of the body; put all the breast pains, stomach pains, and colic pains together, and you do not make such an aggregate of suffering as is furnished by headache. There is no doubt that headache is a more common complaint than it used to be, and the explanation

of this is not far to seek. The most prevalent diseases of the present day are those affecting the nervous system. The strain to which we are all of us more or less subjected through the requirements of modern times renders us especially liable to break down prematurely from over-work and want of rest. Every branch of study is now pushed forward with a vigour unknown to our ancestors, and boys and girls are required to grapple with abstruse questions which a few years ago occupied the attention only of the advanced student or the man of science. Before civilisation had arrived at its present state of perfection the over-wrought brain was confined to philosophers and the laborious scholar in his solitary contemplation of human knowledge. Nervous exhaustion was not the common disease it now is, and physicians were for the most part silent as to the cause of its production. In whatever direction a man now turns, he is sure to find competitors striving for the same prize as himself. In trade, in commerce, in literature, and in art it is ever the same; no man has the field to himself. The busy professional man probably affords the most striking example of over-strained exertion. He must strain every nerve to attain the special object he has in view, and dare not leave it till he has probed it to the minutest detail. Should he quit the field failing to discover some new stratum, he is soon followed by another who digs up the hidden treasure, which gives a name or builds up a future.

Headache often depends not only on mere functional but on organic disease of the brain. Such disease may exist for a long time without giving rise to pain, provided only that its progress be slow. Although there may be paroxysmal exacerbations, a certain degree of constancy characterises this more than any other form of headache. The patient goes to sleep with it; it haunts his dreams, and he wakes up with it. Every movement of the body aggravates it, and the agreeable excitement which will dissipate many headaches often only makes his worse. The pain may be sharp or dull, lancinating or throbbing. It is generally accompanied by giddiness, occasionally by fits of vomiting, sometimes by confusion of mind, and frequently by rumbling noises or murmurs in the ears. There is nothing peculiar in the seat of the pain, but when it is more or less continuous and always referred to one particular spot, there is reason to fear some serious disease.

Plethoric or congestive headache is dependent on an excessive flow of blood to the brain. There is usually a sense of pulsation in the ears, together with giddiness on stooping. This variety affects chiefly robust middle-aged men who are making blood too fast; but it is also met with in plethoric women with menstrual irregularity. Persons who live too freely, take but little exercise, and rise late in the morning, are often subject to it. In many cases it follows the congestion produced by mental emotion or excitement. The flush of the face and neck is a pretty accurate representation of what must be the condition of the vessels of the brain. Perhaps the circumstances most favourable to the production of this form of congestion are when passion and intellectual exertion are combined, as in the case of an orator in the full torrent of invective fury. We find an example of this in the vivid sketch of "Preparing for the House" in the "Diary of a Late Physician," where the stout country squire with a rubicund face is in a condition of great excitement at the prospect of delivering a speech that will at once defeat his

assailants and establish his reputation as a politician. Strong intellectual application may induce sufficient congestion to leave its traces for many hours in those who are either plethoric or have an irritable circulation; and when this is being incessantly repeated, as in the case of over-ambitious students, or in persons under the discharge of some inevitable duty, it may ultimately reduce the intellect considerably below its former level. The counteraction of this congestion is often attempted by means of violent exercise. With a man full-blooded, full-fed, and of active digestion it answers well—the equilibrium of the circulation is maintained, together with the due eliminative action of the kidneys and bowels; but in the case of the pale weakly student, the best part of whose life is in his brain, it seldom succeeds, for no sooner is the congestive headache cured than it is replaced by the headache of exhaustion.

The headache resulting from intoxication might at first sight appear to be a congestive headache, since there can be no question that in that condition the vessels are abnormally full; but the fact is, that the retributive headache comes on only after the debauch is over, and it is probably of a composite character. The disordered function of the brain so wantonly tampered with, and the derangement of the liver and stomach, are probably more or less important factors in its production.

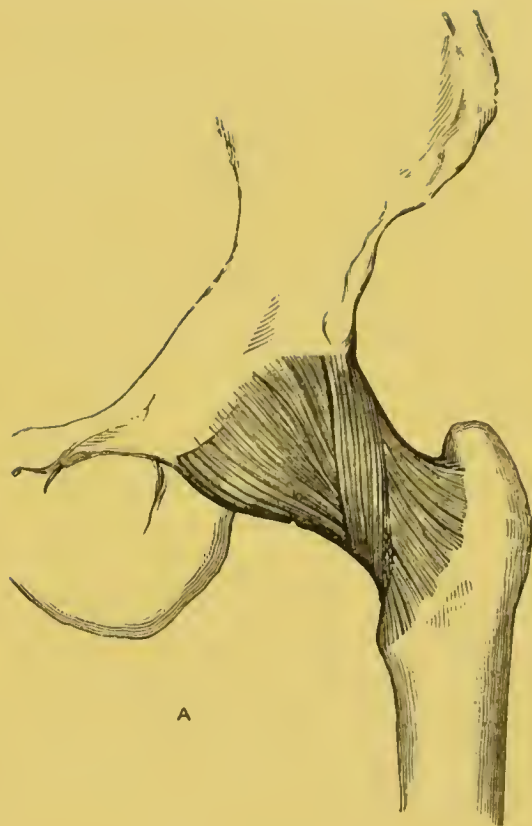
A congestive headache not of the active nature we have just been considering is often met with, and is known as the headache of “brain-fag.” It frequently results from long-continued, persevering, over-action of the brain, whether by the enthusiastic incautions student or the over-tasked professional man. It is caused by the want of adequate rest, mental activity never ceasing for a sufficient length of time to allow the brain to return to its normal condition in repose and recreation. This headache is usually of a dull heavy character, and is most commonly situated in the neighbourhood of the forehead. It is often accompanied by a feeling of incapacity, and by that dejection of spirits that can hardly fail to accompany such feeling. But without any excessive intellectual strain, this form of headache often arises from mere continued anxiety, such as may be observed in some member of a family on whom devolves the chief responsibility of its guidance. Attention always on the alert, the necessity for provision against contingencies, the vexation of disappointed plans, the difficulties incident to domestic, as well as every form of government, the necessary employment of incapable, unwilling, or impracticable agents—such a life soon engenders this form of headache.

The true active plethoric headache is unquestionably less frequent now-a-days than it used to be. The exciting lives in business and dissipation, the wear and tear of the nervous system, the railway travelling, the spareness, refinement, and delicacy of the dietary, sufficiently distinguish the lives of public and professional men from the sleepy squire, the plump pluralist, and the festive alderman of days gone by.

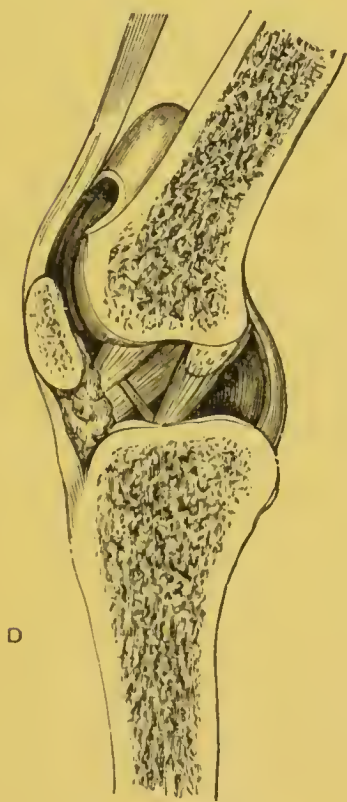
Another variety of headache is known as the nervous headache, and it not unfrequently afflicts an individual at intervals through a long life. It belongs to all classes of society, attacking the rich luxurious lady amid the distractions of society, and the poor hard-worked sempstress in the solitude of her garret. It, like many other nervous affections, is a product of civilisation, and is almost unknown among



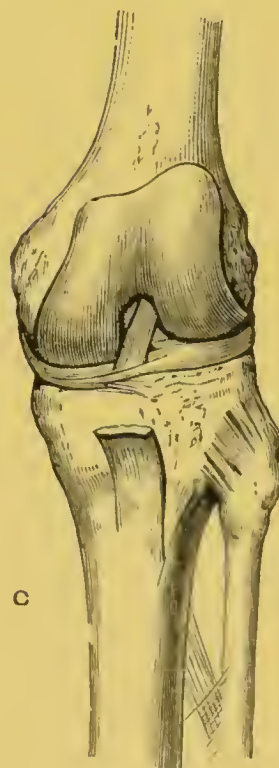
B



A



D



C

HIP AND KNEE JOINTS.

- A. Left hip joint from before, showing capsular ligament.
- B. Section of ditto, showing synovial capsule.
- C. Knee joint from before, showing crucial ligaments and semilunar cartilages.
- D. Section of ditto, showing synovial cavity, etc.

savage races. The subjects of this disorder have an instinctive feeling that it is nervous, and can usually distinguish it from other kinds of headache. They recognise its approach, and succumb to it almost without an effort, and then when it is over they rebound as if nothing had happened. The duration varies : with most it continues till after a sound sleep, and in many, or in the same person occasionally, it will prevent sleep for one or two nights. It varies in degree : sometimes it is dull and heavy, admitting the subject of it to pursue the usual avocations of the day, though under discomfort, but more frequently it is so acute as to make any occupation an additional suffering. The seat varies in different persons, and in the same persons at different times, according to the exciting cause. It may occupy the front of the head, one temple, the crown, the back of the head, or one side. It belongs to all temperaments and habits of body, but it occurs most frequently in persons of nervous diathesis, and in those with frames weak by organisation or exhausted by disease and other causes. The original constitution most prone to this form of headache is that in which nervous susceptibility is well marked. Those of lively emotions, delicate sensibility, and easily perturbed mind are frequent sufferers, and it prevails largely amongst those who have the æsthetical and imaginative elements highly developed. It is the frequent accompaniment and curse of great intellectual endowment, and it would appear that the liability to it is most marked when the functional activity of the brain, whether in perception, emotion, or intellect, is disproportionate to the organic vigour of the rest of the body. The condition which, irrespective of original constitution, is most favourable to the production of nervous headache may be described as one of debility. In the studious, this predisposition is the result of the consumption of nervous force in the brain, combined with neglect of the ordinary laws of health ; and the same may be said of those who over-exert themselves in professional work, in diplomacy, commercial speculation, or what not. In the rich and well-to-do there is often loss of tone engendered by late hours, hot rooms, want of exercise, emotional excitement, the increasing torment of jealousy and ambition, and worse than all, the forced effort to appear gay in spite of *ennui*, worry, and disappointment. The operative classes are not exempt from it, for their social surroundings are often of the most unfavourable description, and their frames are weakened by hardship and privation. Often enough it arises from debility, ensuing on loss of blood or its deterioration, on excessive discharges, and on vicious habits and indulgences. The pale anæmic girl, the mother worn out by repeated pregnancies and prolonged suckling, the father blanched from piles, and the son exhausted with vice—all suffer from this headache. Many of the exciting causes clearly show the nervous origin of the affection. In one it is produced by a prolonged fit of study, or a difficult arithmetical calculation, in a second by a dazzling light, a loud and grating noise, or a disagreeable odour, whilst in others it results from an attack of indigestion, or from long abstinence from food. Curiously enough, it may sometimes be induced by certain atmospheric conditions, notably by that which precedes and accompanies thunder, and by that which ushers in a fall of snow. Sometimes it results from apparently the most trivial causes. The case is recorded of a lady who could at any time induce a fit of headache by turning her head suddenly to the right side, and in another instance it was always brought on by lying on the back. Of all

the exciting causes probably fatigue in some form or other is the most common. Too long a walk, sitting up beyond the usual hour for retiring to rest, compulsory mental effort, whether in the course of conversation, or in study or business, the exhaustion following the excitement of a long journey, or of an evening party, may all act as exciting causes, especially if the fatigue and debility are from any cause associated with circumstances producing perturbing or depressing emotions. Excessive muscular exercise will often act in the same way. In delicate women subject to this headache, it often comes on before, and lasts during the whole of each menstrual period, although there may be nothing abnormal or unhealthy in the function.

In addition to the varieties we have described there are many other forms of headache of more or less frequent occurrence. In what is known as "sympathetic" headache, irritation proceeds at a distance from the nervous centre, as in decayed teeth, arrested digestion, or some disorder of the womb. The case is related of a gentleman who had suffered from pain in the right side of his head for three or four months. It was sometimes acute, at others dull, and it had come on without any assignable reason. A great variety of remedial measures had been tried, including blisters, tonics, regulation of diet, change of air and scene, and so on, but without success. As a last resource he had been advised to seek relief at one of the German spas, but, fortunately for him, before setting out he had his teeth examined. They were all in wonderfully fine condition except the wisdom-tooth in the upper jaw on the right side, which was decayed. This was extracted, and from that moment the patient was cured. This is an exceptional case, but it is a remarkable instance of sympathetic headache. A more familiar example is the pain in the head which, with many people, supervenes on taking ice into the stomach. Headache is sometimes produced by the presence of some special poison in the blood. The headache occurring in typhoid fever is probably the most decided instance of this variety; the poison in this case being the poison of the fever. In the same category must be placed the headache of rheumatism, gout, ague, and some other affections.

Megrim, sick-headache, blind-headache, or bilious-headache, as it is called, is of such importance that it merits a separate consideration (*see* MEGRIM).

Speaking of headaches generally, it may be said that in the large majority of cases they are induced by excessive brain-work, combined with a deficiency of bodily exercise, short restless nights, and insufficient sleep. Excessive brain-work does not mean exclusively work of an intellectual kind, as in close application to study or literary composition, or to the business of chambers or the counting-house, but it also includes that strain of the affective or emotional part of our nature which is the result of prolonged mental anxiety, vexation, and disappointment, and is far more rapidly exhaustive of nervous power than any intellectual efforts that are free from such emotional complications. Headaches occur more frequently in persons of adult life than in youth or advanced old age, and a predisposition to them is undoubtedly in many cases hereditary.

Habitual dwellers in town suffer more than residents in the country; women more than men; the nervous and delicate more than the robust, and the middle and upper classes of society more than the lower. All pains in the head especially affect those who neglect the many little attentions and cares that our civilised, and

therefore in some measure artificial, mode of life requires. Among these may be instanced regularity in diet, carefulness in adapting the clothing to the requirements of our variable climate, attention to the action of the bowels, and sufficient exercise in the open air.

We must now speak of the treatment of headache, beginning with that form which is dependent on organic disease of the brain. It might be thought that in these cases we should be powerless to give relief, but such is not always the case, and we can often do a great deal of good. A permanent pain confined to one spot, and believed to be due to serious brain disease is often best met by the application of a blister over the part. Large doses of iodide of potassium taken frequently—say three or four tablespoonfuls of the mixture (Pr. 32) three or four times a day—often succeed admirably. This drug is especially indicated when there is any suspicion of a syphilitic taint, or when the pain is worse at night. It is not uncommon to meet with patients, generally men, who complain of pain in the head, usually throbbing in character, sometimes accompanied by intolerance of light. This pain is worse or perhaps felt only at night, and is so severe that it seems as if it would drive the sufferer mad. It may be felt over the whole head, or may begin at the back of the neck, and pass over the vertex of the brow. The pain is very apt to be increased by alcohol. Iodide of potassium will nearly always effect a cure in a week or two. Should the patient in any case be restless at night it may be necessary to give a dose of bromide of potassium (Pr. 37) with or without chloral, at bed-time, to produce sleep. Should other measures fail, the hypodermic injection of morphia may have to be resorted to for the relief of pain. Many of the remedies used for other kinds of headache are applicable to the form due to organic disease.

In congestive headache, rest is almost essential to successful treatment. An easy thing, it may be said, to recommend, but how difficult to obtain. Even when complete rest is out of the question, partial rest and additional relaxation may be attended with marked benefit. Often enough attention to little matters of detail as regards the habits of the sufferer may give marked relief. In the busy part of the day the thinker or writer may find advantage in standing at a desk instead of sitting down and leaning over a table. The diet should be spare, and beer and spirits should be avoided. Active exercise in the fresh air and habits of early rising should be enforced; and these measures when rigorously carried out afford the best promise of relief. It is important to get the bowels to act well, and for this purpose two-thirds of a tumblerful of Friedrichshall water in a little warm water may be taken once or twice a week, the first thing in the morning. A few doses of Lamplough's Effervescing Pyretic Saline will often be found of service in these cases. In nervous and irritable subjects, who are upset by worry and over-work, bromide of potassium (Pr. 31) is a good remedy.

In many cases of congestive headache nothing succeeds better than aconite. It is indicated when there is a violent compressive pain above the root of the nose, with heaviness and fulness in the forehead as if it would split; when there is a flushed face on lying down, but pale on sitting up; when there is great restlessness; when the tongue is furred, and the whites of the eyes are yellow; when the urine is hot and scanty and high-coloured; when the pulse is full and bounding, and the

skin harsh and dry ; when there is giddiness on rising, with nausea and noises in the ears ; when there is a general soreness or bruised feeling about the whole body ; when there is dislike to food, light, and sound, then aconite may be given with advantage. A drop of the tincture may be taken in a little water every quarter of an hour for the first hour, and then hourly, or Pr. 38 may be used.

When the face is flushed and the arteries of the head throb, when there is a sense of fulness and compression about the forehead, as if the skull would burst, and when the pupils are dilated and the eyes bright and glassy, belladonna is indicated. This form of headache is increased by lying down and is relieved by assuming the upright position, by leaning the head backwards, and by strong pressure of the head with the hands. There is also giddiness and occasionally dulness of sight. The face is usually puffed and red in the puffiness, and the water is scanty and high-coloured. Often enough there is sleeplessness alternating with unpleasant dreams. The tincture of belladonna may be given in the same way as the tincture of aconite (Pr. 39).

Nitro-glycerine, or glonoine, is suitable for the form of headache which in women often follows the sudden cessation of the periods. The symptoms complained of are usually flushing of the face, throbbing of the vessels of the head and neck, quickened pulse, giddiness, a sense of fulness and oppression at the forehead and back of the head, occasional neuralgic twinges about the side of the head and in the face, and stiffness of the neck. Often enough the face and forehead perspire freely, and there may be singing in the ears, and sparks before the eyes. The medicine acts very rapidly, and in suitable cases a cure is effected in from five to twenty minutes. The dose is from half a drop to a drop of a one per cent. solution in spirit, taken in a little water, or Parke, Davis, and Co.'s Nitro-Glycerine Pills may be used.

Nervous headache is by no means an easy complaint to treat. When an attack is threatening, it is a good plan to lie down and observe the strictest seclusion and rest, and when this is done at an early stage it may possibly avert it. Very often, in addition to maintaining the recumbent posture, a glass of good wine or some other form of stimulant may be given with advantage. During the acute stage of a severe nervous headache there is little to be done, and the best thing is to leave the patient alone and quiet in a darkened room. Sometimes ice to the temples does good, but often enough warmth succeeds better. In some cases relief may be obtained by taking a warm bath, and then putting hot water bottles to the feet. If the pulse is good and the face flushed, an emetic of mustard and water will rid the stomach of offensive matters, and may give relief. When sickness is an accompaniment of this headache, we may try and relieve it by a bismuth draught (Pr. 18), to which three drops of dilute hydrocyanic acid may be added. Another good plan is to apply a mustard poultice to the pit of the stomach. Sucking small pieces of ice in some cases gives relief. Soda water and a little brandy or dry champagne sometimes answers well, but often it aggravates the symptoms, and does more harm than good.

Valerianate of zinc in five or six grain doses every two or three hours is highly recommended in nervous headache. In the Gulstonian lectures, delivered before the Royal College of Physicians some twenty years ago, the following opinion was expressed on the subject of the dose :—" If I may venture on such a remark, I should

say that, judging from the prescriptions I have met with, this medicine is usually given in doses far too small. My own knowledge of the larger doses was in the first instance accidental. For a lady suffering from spasm of the larynx, I had prescribed a grain of valerianate of zinc in a powder (she was unable to swallow a pill), to be taken every three hours. Six grains had been directed to be distributed into six powders, but the dispenser had sent six powders, each containing six grains. In the morning I found that the powders had been taken with marvellous benefit, and no distress to the stomach." The valerianate proves most serviceable when there is no sickness, and the pain is confined chiefly to the side of the head.

Oxide of zinc is another remedy that often does good. Two of the pills (Pr. 66) may be taken every two or three hours, or an equivalent dose—five grains—may be taken in powder suspended in a little water or milk.

When the headache is coming on, and the patient is irritable and can get no sleep, four tablespoonfuls of the bromide of potassium mixture (Pr. 31) may be given with advantage. It produces refreshing sleep, soothes the nervous system, dispels the other symptoms, and at the same time lessens the frequency and severity of the headaches.

Large doses of chloride of ammonium—say thirty grains every four hours—sometimes give relief. It is soluble in water, but is very nasty, and should any difficulty be experienced in taking it, the solution may be poured into a cupful of milk, and then tossed off. Black currant lozenges, each containing five grains of chloride of ammonium, are now kept by most chemists and afford an agreeable mode of administering the drug. The only objection is that six would have to be taken at a dose. Fortunately chloride of ammonium when it succeeds acts quickly. Should relief not be obtained in six or eight hours, it would be useless to take more. Sometimes a dose of quinine does good (Pr. 9), and sometimes benefit is derived from taking together a dose of quinine (Pr. 9) and one of bromide of potassium (Pr. 31). Salicine may often be taken with advantage (Pr. 13).

When there is great weakness; when the pain is so great as to be aptly described by the term anguish; when there is tenderness of the scalp; when the face is pale, and when there is also chilliness and coldness of the whole body, indicating marked depression, arsenic should be administered. Two drops of the liquor arsenicalis may be given hourly to the extent of four doses, or Pr. 40 may be employed.

In some cases gelseminum succeeds admirably. The great thing is to give enough and to give it frequently. The dose of the tincture is for an adult from five to ten drops in a little water every three hours (*See* Pr. 41).

The cautious inhalation of a little chloroform in acute nervous headache may control the severity of the paroxysm, and induce sleep; but when there is nausea it is rarely of service, and often provokes vomiting, distressing the patient and increasing the suffering.

In many cases nothing does so much good as a hypodermic injection of morphia. It is especially indicated when the face is pallid and the pulse slow and weak, and the patient is beginning to feel the want of sleep. Even should it not completely relieve the pain, it gives that amount of repose which renders the patient indifferent to all that goes on around him, and in this way the brain gets rest from those

harassing thoughts and miserable speculations which continue to haunt him, and from which there is no other mode of escape. When means are not at hand for the administration of a hypodermic injection, benefit may often be derived from giving a good dose of opium by the stomach. Two five-grain compound soap pills, containing two grains of opium, may be given to an adult with perfect safety. It is necessary that the patient should lie down and remain perfectly quiet, and an effort should be made to get to sleep. Opium will often afford relief when applied externally. A mixture should be made of warm water and laudanum, and then a piece of lint should be soaked in this and folded into a pad, which should be applied to the temples and forehead.

Many people find that nothing so quickly relieves a nervous headache as a cup of strong tea or coffee. The treatment of sympathetic headache depends chiefly on the detection and removal of the cause. In many cases of headache resulting from stomach derangement, *nux vomica* (Pr. 44) is invaluable. When the patient complains of giddiness on first rising from bed; of nausea early in the morning, brought on especially by the sight or smell of food; of a feeling of weight in the headache made worse by stooping or moving, and of pains in the temples or forehead, this drug is indicated. If, in addition, the tongue is furred, and there is a bitter taste in the mouth; if the complexion looks muddy, and the whites of the eyes are yellow; if the bowels are confined, and the water is high-coloured and scanty, *nux vomica* will succeed almost to a certainty. This form of headache is worse in the morning on waking; it is increased by mental work, by being in the open air, or in the sunshine, and by the use of tobacco or alcohol in any form.

A good deal of care and tact will be required for the treatment of headache arising from menstrual disturbance. In delicate young women whose periods are deficient in quantity, *actæa racemosa* often does good, whilst in the case of a robust girl suffering from the effects of cold, damp, or change of climate, *aconite*, *belladonna*, or *glonoine*, will prove more useful. *Pulsatilla* often succeeds in restoring the flow and removing the headache.

The headache of gout must be treated according to the prominent symptoms, but in many cases the administration of *colchicum* does good. Quinine (Pr. 9) sometimes succeeds admirably in these cases.

For headache resulting from rheumatism, attention to diet is of primary importance. Milk and vegetables will often agree better than animal food, and a little dry wine should be taken instead of beer or spirits. Iodide of potassium (Pr. 32) often proves of service. *Bryony* (Pr. 49) is also of great service in rheumatic headache, especially when the pains are relieved by warmth; if rheumatism has attacked other parts of the body, and indigestion is an old-standing trouble, it is very likely to succeed. *Actæa racemosa* often does good in those forms of headache which would appear to be a connecting link between rheumatism and neuralgia. *Actæa* as a rule succeeds better with women than with men. It is serviceable in that common and distressing headache which affects nervous, hysterical women at the menstrual period, or when the flow is too frequent and too profuse, or at the change of life.

There are other remedies for headache which occasionally prove useful, and

deserve a word of passing notice. For instance, holding the arms above the head will often relieve the severity of that peculiar morning headache with which some persons constantly awake. Again, compression of the temples with a couple of pads and a bandage sometimes affords marked relief. The effect of pressure did not escape the observation of Shakespeare. When Othello, after listening to the insinuations of Iago, tried to conceal his feelings from Desdemona by the plea of headache, she replies :—

“Faith, that’s with watching ; ’twill away again :
Let me bind it hard, within this hour
It will be well.” (Act iii., Scene 3.)

And again in *King John*, in the scene between Hubert de Burgh and Arthur, the latter, when petitioning for the preservation of his sight, says :—

“When your head did but ache
I knit my handkerchief about your brows
(The best I had, a princess brought it me)
And I did never ask it you again :
And with my hand at midnight held your head.”
(Act iv., Scene 1.)

Sometimes the application of ice to the head, cold lotions, or eau-de-cologne will do good. A recent writer recommends brushing the hair and “shampooing.” He says :—“Amongst other accessories for the relief of headache, I would mention the value of having the hair sharply and vigorously brushed by a hair-dresser during the coming on of a headache ; and the circular brush that is prompted to action by machinery is more soothing in its influence than the ordinary brush when controlled solely by the hand of man. For a neuralgic headache and for rheumatism of the scalp, the circular brushing by machinery is only equalled by the comfort of sponging the head with hot water ; and it outvies the sponge inasmuch as the patient has nothing to fear from catching cold after the operation. The so-called “shampooing,” will afford relief in some cases ; but then it requires a very nice and delicate adjustment of hot and cold douches ; for though the warm douche will sooth the poor, irritated nerves, yet, if the officiating priest of the bath is too sudden and too violent in his outpouring of cold water, he will nullify the good effects of his warm waterfall by giving the nerves a shock for which their strength is barely equal. These details may appear trivial to some readers, but I appeal to a headaching audience, and they will, I know, bear me out in my assertion, that it is one thing to be coaxed and soothed by circular brushes and intelligent splashings of warm and cold water, and it is quite another to have a short-bristled brush rattled over your aching head with a charming disregard to the sensitiveness of the nerves of the scalp, and to the comparative value of bristles or boxwood in smoothing people’s hair and temper. I have sometimes shuddered for my turn to come in a hairdresser’s room, when I have seen the brush handled by a clumsy apprentice, and heard it tap and rattle against the scalp of some confiding customer.” Galvanism occasionally proves useful in headache, and sometimes benefit is derived from freezing the skin of the forehead by means of the ether spray, although the latter mode of treatment, we are inclined to think, is more applicable to true neuralgia.

The preventive treatment of headache consists chiefly in avoiding those conditions which are known to predispose to or excite a paroxysm. Many people who suffer from headache, tremors, and restless nights, derive benefit from giving up tea. Coffee is not equally injurious, and in some forms of headache it undoubtedly often does good. Tobacco, too, is, as a rule, not beneficial when there is a tendency to headache, but in some instances a mild cigar appears to ease or even dispel the pain. When a sufferer from nervous headache awakes in the morning with those unmistakable symptoms that usher in a day of pain, he would do well to forego his accustomed cold bath, for his standard of health is obviously low, and no reaction will follow the application of cold.

HEART—DISEASES OF THE HEART.

There are three great causes of heart disease. Either it is congenital, or it is the result of rheumatic fever, or it is due to degeneration. We remember a great medical teacher used to say—"If you have not heart disease now, and don't get rheumatic fever, you are safe till you are over fifty." Children are sometimes born with malformation of the heart, but their lives are short, and those cases need hardly enter into our consideration. In this country rheumatic fever is the most common cause of heart disease. Thanks to our changeable climate rheumatic fever is a very prevalent complaint, and its great danger is that it may affect the heart. Many a man has suffered from years of misery as the result of an apparently slight attack of rheumatism of which at the time he probably thought little. In children, rheumatic fever is very apt to be overlooked, especially when the joints are but slightly affected, and the whole brunt of the attack falls upon the heart. Sometimes heart disease comes on after scarlet fever, but these cases are exceptional. In athletes, gymnasts, labourers, and those who have heavy weights to lift, heart disease is not uncommonly the result of a severe strain. In these cases the onset is often very sudden, the patient perhaps at the moment suffering from severe pain and shortness of breath, and he may even experience a sensation of something having given way in his chest.

We have, so far, spoken of heart disease as a whole, but it must be remembered that there are many different kinds of heart disease. These varieties are perfectly distinct, but they can be distinguished only by a skilled examination of the chest by a medical man, and it is impossible for us to lay down any rules for their recognition.

Among the general symptoms of heart disease may be enumerated, pain in the chest, palpitation, blueness of the face and lips, difficulty in breathing, cough, dropsy, and an irregular pulse. It must be distinctly understood that it is the combination of these symptoms that would lead us to suspect heart disease; and that the presence of only one or two would mean nothing. Pain in the left side is a symptom from which most of us suffer at some time or other, but it alone is not to be regarded as indicating the existence of heart affection. In the majority of cases it is purely muscular in origin, resulting from general debility and over-exertion. Weak, ill-fed, badly-nourished, sickly women, exhausted by frequent pregnancies and long-continued suckling, often suffer from it terribly, and their general debility often gives rise to palpitation of the heart, but there is no actual disease, and the proof of this is that it is

readily cured by good feeding, freedom from worry and anxiety, out-door exercise, and a moderate allowance of stimulant. In nine cases out of ten, pain in the side means general debility, and not disease of the heart. This is a point of some importance, for it is one on which a great deal of misapprehension exists. Then palpitation alone is never to be regarded as evidence of heart disease, although many people get very much alarmed about it. It usually arises from the stomach and not from the heart. A common cause of palpitation in young men is excessive smoking, and if they will only consent to give up their pipes for a few weeks it gradually disappears, to return perhaps on resuming the tobacco. We know of an instance where a gentleman suffers from severe palpitation for days after indulging in even a single cigar or pipe, and yet he is perfectly free from any heart affection. In women tea often acts in the same way. We quote the following case as an example of the mode in which palpitation often arises. "A friend of mine, a barrister, used to be very anxious about himself, because a fluttering sensation frequently occurred at his heart; an intermission of one or two beats, and then a violent throb when the organ again resumed its play. This is a sensation very familiar to my own consciousness, and probably most persons have occasionally experienced it. However, it happened so often to the gentleman I speak of that it made him very unhappy. He persuaded himself that he had disease of the heart, and that he should some day suddenly drop down dead. But there was no other symptom of cardiac disease, direct or indirect, general or physical. He was accordingly told that the intermission depended upon some fault in his digestive organs; and he was advised to leave off different articles of food and drink in succession, in order to discover whether any one particular thing offended the stomach and gave rise to the symptom. He began by abstaining from tea, of which he had been in the habit of drinking a large quantity; and thereupon the fluttering of the heart ceased. After a while he took to tea again, and then the fluttering returned. He repeated the experiment many times, and always with the same result, till at length his mind was satisfied; and by renouncing tea altogether he got rid of his palpitation and of his apprehensions." This is an instructive case, well worth the attentive study of those who suffer from palpitation, and think they have heart disease. We shall have more to say on this subject presently (*vide* PALPITATION).

Shortness of breath and cough may arise from many diseases other than those of the heart, as, for example, winter cough and asthma. It is only in combination with other symptoms that they are of any value in indicating disease of the heart. Dropsy, as we have seen, is a frequent concomitant of heart disease, but it is also a symptom of Bright's disease and many other affections, and may even arise from pronounced anæmia, or poorness of the blood. It is often said that inability to lie on the left side, combined with palpitation of the heart, is to be regarded as an indication of serious mischief, but this is not strictly true, for patients with neuralgia of that side can rarely endure the posture in question, and there are many other exceptions to this rule.

It might be supposed that the amount of pain and distress experienced in the chest would form some guide to the condition of the heart, but such is not the case, for, singularly enough, the amount of suffering entailed by mere functional

disturbance is, in the majority of cases, infinitely greater than that produced by actual disease. A patient with a serious heart affection that may kill him at any moment often experiences so little trouble from it as to express petulant annoyance at having his chest examined, whilst another individual suffering from nothing but indigestion and flatulence refuses to be persuaded of his freedom from some mortal malady. If you think you have heart disease, it is ten chances to one that you have not. The majority of people who really have some heart affection know nothing about it till they are told by the doctor.

Many persons suffer from habitual feebleness of the heart's action. This condition may occur in conjunction with disease, but usually it is a mere functional disorder of but little significance. The symptoms to which it may give rise are coldness and clamminess of the hands and feet, a little swelling about the ankles and insteps, shortness of breath, frequent inclination to faintness, sensations of languor and *ennui*, low spirits, loss of appetite, disagreeable breath, and confined bowels. This state of affairs often occurs in young women, frequently in association with some disorder of the menstrual function. As regards treatment, such medicines as iron (Prs. 1, 2, 3, 4, 6, and 7), quinine (Prs. 9 and 11), and cod-liver oil should be given. The patient should be made to take a fair amount of exercise in the open air.

Many people suffer from pain in the left side, the chief seat of which appears to correspond to a limited spot a little above and to the left of the nipple. It is apparently situated at some little distance below the surface. Remaining limited to this spot for a variable time, it may eventually extend downwards to the elbows, or even to the tips of the fingers. The pain may be in character shooting or grinding, and the sensation may be merely one of uneasiness, or it may give rise to the greatest anguish. These symptoms are not to be regarded as affording indications of heart disease, although it is to be feared that the more severe forms are allied to that disorder which we have described as *angina pectoris* (*vide* ANGINA PECTORIS). In slight cases relief may be obtained by a course of tonics, by attention to the general health, and by wearing a belladonna plaster over the region of the heart.

The act of bending forwards, especially in the sitting posture, and if accompanied by some effort, as in drawing on a boot, is often followed by a peculiar pain, usually referred to the heart. It is relieved more or less quickly by stretching out the chest wall and pressing on the surface. Once produced it is often readily re-excited, and many people are obliged to exercise the greatest caution, in order to prevent its recurrence. The pain is muscular (*vide* MYALGIA), and is not an indication of heart disease. Wearing a bandage round the chest, or the application of a belladonna plaster over the affected region might prove useful.

Many people worry themselves very unnecessarily on the subject of a fatty heart, for it is a complaint that is rarely detected. Although occasionally met with in young people, the disease is essentially an appanage of middle and advanced life. Women suffer from it much more rarely than men. It occurs in all ranks of society, though, to a certain but undetermined extent, more in the upper and middle classes than among those who earn their daily bread by manual toil. It does not appear that indulgence in the good things of this life especially favours its production.

One sees it in men whose rule for years has been to consume at least their daily bottle of wine, in gross beer-drinkers, and in spirit-drinkers; but it is almost as frequently met with in persons who have led a life not only of soberness, but almost of abstinence. The symptoms to which fatty heart gives rise are by no means characteristic. We would say that the fact of your thinking that you are suffering from this complaint is to be regarded as presumptive evidence that you are not.

HICCUP, OR HICCOUGH.

Hiccup is a complaint—if it may be dignified by the name of complaint—which seldom gives rise to any anxiety, or calls for active treatment. It usually passes off in a few minutes, or in the course of half an hour, even if nothing be done for it. One of the commonest and most convenient modes of arresting it is to close the mouth and hold the nose as long as possible. Some people prefer tossing off a tumbler of water, whilst others run up-stairs as fast as they can. A sudden shock will often stop it more effectually than anything; a friend comes up and gives you an unexpected dig in the ribs or slaps you on the back, and your hiccup is gone. Sometimes in hysterical young women it persists for days, to the great annoyance of everybody. The treatment in such cases should be directed to the hysteria rather than to the hiccup. Occasionally it occurs in the course of acute illnesses such as fevers, and is not to be regarded as a good sign, although, of course, too much importance must not be attached to it. In the case of a corpulent man suffering from typhus fever it continued for eighteen hours out of the twenty-four on several consecutive days.

We may mention a few remedies that might be resorted to in case of need. Obstinate and even dangerous cases of hiccup are reported to have been cured by drinking an infusion of mustard made with a tea-spoonful of mustard steeped in four ounces of boiling water for an hour, and then strained. Camphor has been recommended, and so has a mixture of chloroform and laudanum, but we are unable to say in what doses they are most likely to do good. A hypodermic injection of morphia sometimes succeeds when other measures have failed. Chloral often effects a cure when given in ten-grain doses (Pr. 37), and a few drops of sweet spirits of nitre on sugar have been known to arrest the spasm. Three or four drops of dilute sulphuric acid in water every ten minutes or a quarter of an hour might be tried. Gelseminum (Pr. 41) may sometimes be given with advantage. Musk is a remedy which proves of value, especially in hysterical young women. A useful draught may be made by mixing together a tea-spoonful of fetid spirit of ammonia, a table-spoonful of lime-water, and a table-spoonful of peppermint-water.

For the hiccup of drunkards, reliance may be placed on tincture of *nux vomica* given in five-drop doses every hour for three or four hours, or even longer. Ten-minim doses of tincture of *capsicum* often succeed admirably in these cases. This treatment not only cures the hiccup, but obviates the morning vomiting, and removes the sinking at the pit of the stomach and the intense craving for stimulants, from which these people so often suffer. The medicine may often be continued with advantage to the general health after the hiccup has been relieved.

HYDROPHOBIA.

Few complaints have attracted greater attention or have been more carefully studied than hydrophobia. It is a disease of considerable antiquity, an unmistakable account of its phenomena being found in the works of Aristotle. It is also mentioned by many of the ancient authors, poets, and historians, among others by Homer, Xenophon, Horace, Ovid, Plutarch, and Pliny.

It is a disease due to the introduction into the system of a special poison existing in the saliva of the affected animals. It occurs most commonly in dogs, but cats, horses, pigs, goats, sheep, wolves, foxes, hyenas, jackals, and horned cattle occasionally suffer from it. Its production in man is nearly always caused by the bite of a mad dog.

It was at one time supposed that the disease originated spontaneously in dogs and other flesh-eating animals, but there are reasons for believing that this view is erroneous. It is often said that in dogs it is produced by certain accidental circumstances—such, for instance, as the intense heat of the “dog days,” severe cold, and want of drinking-water; also by such causes as domestication, training, and the physical deterioration induced by their artificially-acquired modes of life. In reality, however, there is not the slightest evidence in favour of the correctness of this view. It must be admitted that these abnormal conditions of life may predispose dogs to mental and nervous disturbances, and may even favour the production of madness, but they in themselves never suffice to originate the disease. We may feel assured when a dog becomes rabid that it has either been bitten by another mad dog, or has contracted the disease from some wild animal of a kindred species. It is said that in the mountains of Switzerland the dogs are frequently infected by the bite of rabid foxes.

It is a curious circumstance that some dogs appear to have the power of resisting the action of the poison which produces hydrophobia. In the veterinary school at Lyons, a pointer, which had been bitten experimentally no less than seventeen times by dogs suffering from rabies, remained unaffected. Other dogs resist two, three, or even four attempts at inoculation, and are finally infected at a subsequent trial. Whether the bite of a mad dog is followed by infection or not depends, apart from the individual predisposition, upon accidental conditions, especially upon whether the bitten part is protected by hair or other covering, which would wipe off the saliva before the teeth came in contact with the skin.

It is usually supposed that madness in dogs is more common during “dog days” than at any other time of the year. In reality rabies occurs nearly as often in the spring, in the autumn, and even in the winter as it does in summer. Statistics show that January, which is the coldest, and August, which is the hottest month in the year, are the very months which furnish the fewest examples of the disease.

The symptoms of hydrophobia in dogs are well worthy of consideration, as by the early detection of the disease prompt measures can be taken for the isolation or destruction of the animal, and a great danger may be averted. Persons are liable to be bitten by mad dogs under two sets of circumstances: firstly, when a rabid animal escapes from home, and is at large; and secondly, when a dog, not known to

be affected, is caressed by his master or some of the family. It is, consequently, quite as important to be aware of those slight indications which should afford ground for suspicion that the disease is impending as to know the characteristic signs by which it may be recognised when it has fully declared itself. The premonitory symptoms of rabies in a dog consist almost entirely of changes in its demeanour, and although they may be too trifling to be noticed by a casual observer they are fortunately sufficiently striking to arrest the attention of any one who is familiar with the animal's habits and individual peculiarities.

A dog about to become rabid loses its natural liveliness, and mopes about as if preoccupied or apprehensive, and frequently seeks to withdraw into dark corners. A change is noticed in his temper, and he becomes either unusually confiding and friendly, or, on the contrary, extremely irritable, morose, and easily enraged. From the first there is a foreshadowing of that most constant symptom of the disease—depraved appetite. Mad dogs not only devour filth and rubbish of every kind with avidity, but will even eat their own excrement, and that immediately after it has been passed. This tendency usually appears early, and when a dog refuses his accustomed food and swallows ravenously such substances as hair, straw, dung, rags, earth, bits of leather, and the like, his conduct, to say the least of it, is very suspicious. Along with this peculiarity in behaviour it is of equal importance to notice that an affected dog from the first snaps at other dogs without provocation. This snappishness in most dogs is very striking. If a dog previously known to have no such habit snaps indiscriminately at the first dog it meets, it is in all probability not safe.

A dog which is at large may also be recognised as being in a dangerous state by its general demeanour. A healthy dog in its progress along a street or elsewhere shows at every step that its attention is awake to the sights and sounds by which it is surrounded. The rabid dog, on the contrary, goes sullenly and unobservantly forwards, and is not diverted by objects obviously likely to attract its attention. This statement, however, is subject to the important exception already referred to that it is excited both by the sight and sound of an animal of its own species.

These premonitory symptoms may last one or two days or only a few hours. Gradually the animal displays increased restlessness and uneasiness, and if chained up he usually endeavours to break away or to tear his kennel to pieces. If he succeeds in getting loose, he will either wander about in an objectless kind of way, or he will start off running as fast as his legs will carry him, sometimes performing considerable distances in an almost incredibly short space of time. The desertion of his home by a previously faithful dog is a circumstance which should always excite suspicion. The animal frequently returns after a short absence, and then almost invariably exhibits a decided propensity to bite, a propensity manifested to a less degree in good-natured dogs than in those naturally ferocious. It is a well-known fact that rabid animals retain a certain affection for people they know, and with whom they are brought in frequent contact. A dog will at first not bite his master, but rather seeks to avoid his presence. It has been frequently noticed in fox-kennels that a mad dog will attack only the males of his own species and spare the females. Sometimes the animal manifests a decided insensibility

to pain, remaining quiet under blows and treatment which would call forth a vigorous protest from a healthy dog. It is said that a mad dog will seize a red-hot poker, and in some instances they have been known to bite off the end of their own tail. A decided alteration in the sound of the voice is usually detected. The bark entirely loses its ring and acquires a peculiar hoarseness which is readily recognised by the most unobservant. Attention is sometimes drawn to the condition of an animal supposed to be healthy by observing that it tries to scratch the corners of its mouth as if attempting to get rid of the ropy mucus which is freely discharged from it. As the disease progresses the discharge increases, the lower jaw hangs as if paralysed, and the animal has evidently a difficulty in swallowing. With the extremely small quantity of nourishment taken the animal rapidly emaciates, and in a few days from the onset of the illness a very striking alteration is noticed in his general appearance. The flanks fall in, the eyes become dim and sunken, and the general weakness is so great that the animal can scarcely stand. His powers of biting are now very feeble, and he curls himself up as if trying to sleep, and in this manner gradually and tranquilly dies. Death usually ensues on the fifth or sixth day, rarely later, and life is never prolonged beyond the tenth day.

We must especially call attention to the fact that in dogs suffering from hydrophobia no special dread of water is manifested. In exceptional and extremely rare instances only do the animals suffer from spasm of the throat in their attempts to drink. They tolerate the sight of water without any sign of excitement, and will splash about in it and drink freely. There is a case on record of a man who died from hydrophobia arising from a bite on the hand, received whilst endeavouring to rescue a dog from drowning. Rabid dogs seldom display any special aversion to light, air, or the glare of the sun. In many cases, from the first to the last that wild fury which is commonly supposed to belong to the disease is conspicuously absent. In one particular form of canine hydrophobia, known as dumb rabies, the lower jaw is early paralysed, and the peculiar howl is then lost.

The symptoms occurring in other animals suffering from hydrophobia are similar to those described in the case of dogs. When foxes are under the influence of the disease they lose their natural shyness, and follow men and animals, biting them if they get an opportunity. Wolves are more to be feared than foxes, from their greater strength and ferocity. They attack human beings without the slightest hesitation, and generally succeed in inflicting severe wounds about the face, neck, and hands. Cows, horses, sheep, and deer, from their limited powers of biting, seldom succeed in communicating the disease to man.

As the actual inoculation of the system with the saliva of the rabid animal is necessary for the production of the disease, it may readily be imagined that it is not everybody who is attacked by a mad dog that contracts hydrophobia. By some it is said that the disease is produced in only five per cent. of the cases, whilst by others the proportion is placed as high as fifty per cent. It is possible that some people are more susceptible to the disease than others, but the situation and character of the wound in all probability exert a great influence on the result. It is obvious that when the injuries are situated on the hands and face the danger of the supervention

of hydrophobia is much greater than when they have been inflicted on the covered portion of the body or limbs, for in the latter case the clothing protects the wound from the action of the saliva.

The symptoms produced by hydrophobia in man are somewhat different from those we have described as occurring in animals. Let us suppose that a man is bitten on the hand by a mad dog, what happens? At first nothing; the wound behaves, to all appearance, just as it would have behaved if the dog which produced it had not been rabid—that is, it gradually heals up. After an uncertain period, which may vary from three or four weeks to as many months, or even longer, the patient experiences an uneasy sensation in the situation of the bite. The scar tingles, or aches, or feels numb, or it may even become inflamed, and the wound break out afresh. In a few hours or days, during which the patient feels uncomfortable, and “ill all over,” the constitutional symptoms make their appearance. Pain and stiffness are experienced about the head and neck, and then the most characteristic symptom of the disease, inability to swallow fluids, sets in. The patient is thirsty, but is unable to swallow, every attempt bringing on a fit of choking and sobbing of a most distressing character. This continues for a few days, and then the patient gradually dies of exhaustion.

Sir Thomas Watson has given a graphic account of a case of hydrophobia which came under his observation. It is too long to transcribe in full, and we must consequently content ourselves with giving an abstract of the chief features, believing that such a course will be more conducive to a correct appreciation of the nature of the disease than a mere enumeration of the symptoms. The patient was a coachman, whose right hand had been struck ten weeks previously by the teeth of a terrier dog. He was brought to the hospital on a Tuesday. On the preceding Thursday his hand became painful and swollen. On Friday the pain extended into the arm, and became more severe. On the morning of this day he had refrained from taking his usual cold bath on account of some feeling of spasm about his throat. His own remark about this was that “he could not think how he could be so silly.” On Saturday the extent and severity of the pain had still farther increased, and on this and the preceding night he got no sleep. He felt ill and drowsy on the Sunday, and the pain extended to the shoulder. The next day he complained of feeling “ill all over,” and told his medical attendant that he could not take his draughts, because of the spasm in his throat. That gentleman, concealing his own suspicions as to the true nature of the disease, said, “Oh, you don’t like the taste of your physic! drink some water.” But he declared that he had the same difficulty with the water. The next day he came to the hospital, when there was water brought and placed before him in a basin, for the alleged purpose of allowing him to wash his hands. It did not seem to disturb him, nor to excite any particular attention. Water was then offered him to drink, which he took and carried to his mouth, but drew his head from it with a convulsive shudder. Subsequently water was again brought him, which agitated him, and he became exceedingly distressed and unquiet, complaining of the air which blew upon him. In the evening he made an attempt to take some gruel. He sat up, and

after a moment's look of serious terror took half a spoonful of the gruel in a hurried gasping manner, and then said he would not take more at a time lest *the sensation* should come on. He was desired to drink the last portion of the gruel from the basin. He accordingly seized it with hurry, carried it to his mouth with an air of determination, and then a violent choking spasm of the muscles about the throat ensued, and most of the gruel was spilt over his chin. He observed that he had been in too great a hurry about it, or he should have managed it. On the Wednesday, at noon, he was in nearly the same state, but said he was better. In the course of the night some morsels of ice had been given him. With considerable effort he swallowed two or three of these; the third and fourth caused so much spasm, however, that he was obliged to throw them out of his mouth, but so great was his resolution, that he seized them again, and by a strong exertion succeeded in swallowing them. He complained now that his mouth was and had been clammy; and he champed much, and spat out a good deal of tough mucus. At his own request, and (as he said) that he might injure no one, a straight-waistcoat was brought, which he assisted in putting on. He subsequently made an attempt to take some arrowroot, the effort being preceded by hurried inspirations and sobbings precisely resembling those which occur when one gradually wades into deep water. He swallowed small quantities of arrowroot eight or nine times with hurry and difficulty, and with sighs that succeeded each other rapidly. By the evening of that day the disease had not made much further progress. He again sat up and tried to eat some thinnish gruel. While taking the basin into his hand he drew back his head to a distance from it, apparently involuntarily. He took one half-spoonful with effort and distress, then sighed deeply and rapidly, or rather his breathing consisted of a succession of sighs at short intervals; he gave up the basin and sank back on his pillow, still sighing. The next day he was still composed, though more easily irritated, his pulse was 140, and much weaker than before, and his mental powers were failing. He gradually sank, and died in the evening, having repeated the Lord's Prayer an hour previously. During the last hours of his life he had been moaning and tossing from side to side; his bowels were purged; fluid stools ran from him, and distressed him greatly. His feet and legs first became cold, and the coldness extended by degrees up to his chest. He hawked up in the course of the day a considerable quantity of ropy mucus, and much frothy saliva came from his mouth towards the close. The duration of this case was unusually protracted, and on the whole the symptoms were less violent than usual.

It is almost needless to say that there is not the slightest fear of the disease being communicated by a patient to his attendants. In former times it was universally believed that the unfortunate sufferers had both the power and the inclination to impart the disease to others by biting them. Every one feared to be bitten, and fancied that by merely coming in contact with the body, or treading upon the saliva of a diseased person, the malady might be contracted. The nearest relatives fled from the patients, and abandoned them to their fate, as if they were so many wild beasts. Sometimes, however, with the view of shortening their sufferings, as they

said, they put them between two feather beds, and smothered them, or they opened a vein, and let them bleed to death. It is stated, moreover, in a work recently published on the subject, that even in our own day there are districts in Europe (the military frontier of Austria) where the dread of hydrophobia is so great that human beings who are suffering from it, or who are suspected of being so affected, are shot by their neighbours, whilst those who have been bitten by rabid animals not unfrequently commit suicide.

When a person has been bitten by a suspected dog, the animal should on no account be killed, for it may turn out that after all it was not really mad. The beast should be carefully secured so that it can do no further mischief, and then watched. A few days' observation might show that the suspicion as to the nature of the disease was unfounded. Rabies is invariably fatal in the dog under ten days, so that if the animal survive that time the bitten person may feel assured that he is in not the slightest danger, and has no cause for apprehension. By taking this simple precaution, not only may the patient's mind be relieved of a most harassing fear, which might otherwise have tormented him for months and years, but the dog will be afforded an opportunity of clearing his character of a most unjust suspicion. It should always be remembered that the majority of dogs who bite and snap are only vicious and not rabid. When a mad dog bites through the clothes, particularly if they consist in part of woollen material, the poison is very often wiped off from the teeth, and the system is not in reality inoculated. The large majority of those who are bitten by mad dogs escape hydrophobia, in fact, the Registrar-General's reports show that the annual mortality from this disease seldom exceeds twenty-five, and is often as low as eleven. As the greater number of cases occur between the thirtieth and fortieth days, when the latter period is safely passed every hope may be entertained that no harm will arise from the accident. After the expiration of the second month the patient may be considered almost absolutely safe. It is the opinion of many doctors that a patient may readily succeed in frightening himself to death, and that the terror inspired by the bite of a mad dog may prove fatal.

What should be done when a person is bitten by a mad dog? In the case of the arm or leg a pocket-handkerchief or piece of rope should be tied tightly round the limb above the bite. The sufferer should then immediately suck the wound with all his might, or if from its position or his want of presence of mind he is unable to do so, some friend or good-natured bystander should perform that office for him. No danger is incurred in sucking the part, provided there be no wound on the lips or other surface with which the poison comes in contact. As soon as possible the bitten part should be either cauterised or cut out with a knife. The late Mr. Youatt, who, in the course of a long experience, had treated a very large number of persons who had been bitten by dogs undoubtedly rabid, placed the greatest reliance on the application of lunar caustic, which, so far as he knew, had in every case prevented the development of hydrophobia. He had an undoubted right to speak with authority, for he tells us that he had himself been bitten seven times, and that he had operated with the caustic successfully on more than four hundred persons, all bitten by dogs respecting

the nature of whose disease there could be no question. It is absolutely essential that the caustic should be brought in contact with every particle of the exposed surface. When, from the extent or situation of the wound, the nitrate of silver stick cannot be effectually employed, fuming nitric acid may be used. Abercromby was in these cases an enthusiastic advocate for the use of the knife. He advised that a skewer should be cut as nearly as possible into the shape of the dog's tooth, and insert it into the cavity which it had made. He then by a bold sweep cut out the skewer and the whole of the surrounding tissue in which it was contained, taking the greatest care that every portion with which the tooth had come in contact was thoroughly removed. Many people nowadays would entertain a very decided objection to such energetic treatment, even although all pain might be avoided by the performance of the operation under chloroform. In the absence of a skilled surgeon the application of a red-hot poker or Italian iron is to be preferred. If freely applied it is almost certain to confer absolute immunity. The pain of the application is probably very much less than is usually supposed. Another plan is to cover the part with gunpowder and then explode it.

We must now consider the mode of treatment to be adopted when the disease has fully declared itself. Most medical writers on this subject are sufficiently explicit, for they affirm their utter unbelief in any method of treatment. "No specific method of treatment has been shown to have the slightest influence in checking or modifying this disease from which, in all probability, no one ever recovered." "There is no well-authenticated case on record in which a hydrophobic person has recovered." "The physician that cures is Death." Such are the opinions of some of our most eminent physicians and writers on medicine. We must admit, however, that we are not prepared to receive their verdict as final. If we were suffering from hydrophobia we should by no means be prepared to lie down and await the bitter end. Cases of recovery have been recently recorded, and as long as there is life there is hope.

We believe that sufficient evidence has been adduced in favour of our common box (*Buxus sempervirens*) as a remedy for hydrophobia to justify its employment with a certain amount of confidence. It is, moreover, the active ingredient in many of the secret remedies which have obtained a reputation for the cure of this disease.

The Groombridge recipe, which was for several generations in the possession of a family living in the neighbourhood of Uxbridge, was some three or four years ago purchased at the instigation of a medical man who had had many opportunities of witnessing its beneficial effects, and had published an account of several successful cases which had occurred under his immediate observation. It was found to consist of the terminal branches and leaves of box, of fetid hellebore, primrose roots, gascoigne powder (a mixture of crabs' claws, hartshorn shavings, and amber), jalap, and carbonate of iron. The primrose roots were not considered essential, and had been omitted for some years.

The Birling remedy, which in popular estimation has obtained a reputation as great, or even greater, than the Groombridge, is said to consist of box, staggerwort, primrose roots, bears' foot, powder of white gashen, jalap, and steel.

The mass of evidence in favour of the beneficial effects of these remedies, in

cases of undoubted hydrophobia, is so great that it can hardly be attributed to the influence of imagination, and we entertain but little doubt that the active ingredient in both prescriptions is the box.

Many of the older writers on medicine and drugs appear to have been acquainted with the properties of this plant. Thus old John Parkinson, in his "Theatre of Plantes," published in 1640, says:—

"One medicine that I learned of a friend who had tried it effectual, I will here set down unto you to cure the biting of a mad dogge, is to take the leaves and rootes of boxe, and penny-royall, of each a like quantity, shred them small and put them into hot broth and let it be so taken three days together, and apply the herbe, &c., to the bitten place with sope and hogges' suet melted together."

In a curious work on the diseases of dogs, published early in the present century by Delabere Blaine, a veterinary surgeon, a very interesting account is given of his discovery of the composition of a remedy for hydrophobia, and of the results obtained by its employment in a large number of cases. It appears that the author had for some years known that there lived near Watford a cottager of the name of Webb, who dispensed what is commonly called a drink, as a preventive of hydrophobia. From the number of testimonials received relative to its efficacy, there were reasons to suppose that it really possessed some preventive properties. In the year 1807, rabies proved very prevalent, and the public curiosity became much excited on the subject. Mr. Blaine had his interest in the question greatly enhanced by "having been bitten by a dog unquestionably rabid." He accordingly went to Watford, and, as he says, prosecuted his inquiries with such success that from one of the two brothers who had dispensed it he gained the original recipe, which he took the precaution of having verified on oath before a magistrate. It was found to consist largely of box. The method of preparation adopted by Mr. Blaine is as follows:—Take of fresh leaves of the tree box, two ounces; of fresh leaves of rue, two ounces; of sage, half an ounce. Chop these finely, and, after boiling them in a pint of water to half a pint, strain and press out the liquor. Beat them in a mortar, or otherwise bruise them thoroughly, and boil them again in a pint of milk to half a pint, when press out as before. After this mix both liquors, which will then form enough for three doses, one of which is to be taken every morning fasting.

Mr. Blaine, in the course of a long and extensive practice, gave this remedy to nearly three hundred living beings, including men, women, and children, horses, hogs, sheep, and dogs. In almost every case he was enabled to trace the history of the danger to the bite of some rabid animal. Although he was unable to regard box as an absolute specific for hydrophobia, the number of cases in which it failed in his hands was remarkably small.

We think that this combination of testimony should induce us to give box a trial in cases of hydrophobia, more especially as we have practically no other drug on which we can rely. We might either follow Mr. Blaine's directions as to its mode of administration, or, as we think preferably, omit the rue and sage, and give the box alone. The alkaloid or active principle is known as buxine, and is readily obtainable, but we know of no case in which it has been given in hydrophobia, although it is very probable that benefit might ensue from its administration.

A case of hydrophobia has been published in which recovery was attributed to hypodermic injections of morphia frequently repeated.

Of late years the use of the vapour bath has been strongly recommended, not only as a preventive of hydrophobia, but as a means of curing the disease when fully developed. It is not at all improbable that it may be instrumental in eliminating a virus which lurks so long in the system. The bath is recommended to be taken, *à la Russe*, on several successive days, at a temperature of from 57° to 63°. Benefit might possibly be derived from the use of the Turkish bath.

In addition to the specific treatment, we should try to soothe and comfort the unfortunate patient by every means in our power, and should be especially careful to prevent all noises, draughts, and other sources of excitement which are so liable to excite the painful spasm of the throat. It has been suggested, and apparently with good reason, that large fluid injections might with advantage be administered by the bowel. By checking the agonising thirst, they would in all probability greatly lessen the sufferings of the patient.

HYPOCHONDRIASIS.

Hypochondriasis may be said to consist essentially of an exaggerated egotism. Its principal feature is mental depression occurring without adequate cause, and taking the shape of a conviction in the patient's mind that he is the victim of some serious bodily disease. It is a complaint that has been recognised from the earliest times, and has always been known as hypochondriasis or the hypochondriac disorder, and sometimes as the "spleen." It might aptly be described by the term "misery." It is not pain; bodily pain is not misery, for you often see patients cheerful and even jocose, though daily racked with pains which might almost bring tears into your eyes to witness. Misery is worse than pain; it is a terrible infliction, as those who have experienced it know well.

In this case there is no perversion of the understanding such as frees the insane from the responsibility of moral agency. Indeed, the average intellectual capacity in hypochondriacs is not below but rather above the general standard. Without any sufficient reason for such conduct, and without any signs of intellectual impairment, the patient concentrates his attention on some particular organ of the body and imagines that it is seriously diseased. He is constantly tormenting himself—and others too, for the matter of that—by dwelling upon his miserable condition, and suffers from the incessant dread of the existence of some serious malady, with perhaps a fear of impending death or insanity. He may fulfil his ordinary duties creditably, but, as a rule, is preoccupied with his own condition, to the exclusion of all other interests and affections, and is ever writhing under the petty despotism of an imaginary evil. Many a hypochondriac might exclaim with Hamlet:—"I have of late (but wherefore I know not) lost all my mirth, foregone all custom of exercises; and, indeed, it goes so heavily with my disposition, that this goodly frame, the earth, seems to me a sterile promontory; this most excellent canopy, the air, look you—this brave o'erhanging firmament, this majestic roof fretted with golden fire—why, it appears no other thing to me than a foul and pestilent congregation of vapours."

Hypochondriacs generally present a healthy appearance, and sleep and perform

their ordinary functions well. They go "the round of the doctors," if they can afford it, and are always changing their medical attendant, being particularly anxious to try any new drug that may for the time be fashionable. They take a strange delight in talking about their ailments, and are very fond of using scientific terms without, however, always quite understanding what they mean by them. A curious feature is that although they do their best to nurse their malady, they always appear to be most anxious to get rid of it, and have an unlimited faith in medicines, notwithstanding repeated failures in treatment. Perhaps the most vivid picture extant of a hypochondriac is contained in the autobiography entitled "Grace abounding unto the Chief of Sinners," being the history of the feelings of "God's poor servant, John Bunyan," as he styles himself.

The precise symptoms complained of vary much, and they are liable to change from time to time. Often enough there is a great but indescribable sensation of uneasiness in the chest, or there is a burning pain at the pit of the stomach. A very common delusion is that there is consumption or fatal heart disease, and a little indigestion and consequent palpitation may serve to keep up this idea. In the case of persons whose family is strongly tainted with insanity these delusions may assume a far more serious character, and the patient may believe, for instance, that his stomach is full of tadpoles, or that a serpent is writhing about in his entrails. The judgment may even become affected to such a degree that the patient entertains most preposterous ideas, as that he is made of glass, and is in constant danger of being broken, or that he is being magnetised, or that people are conspiring to poison him. The wife of a tradesman believed that she had become solid, so that there was no room for any food, which, nevertheless, she continued to take. An idle country gentleman was convinced that some stones that had been thrown in his face weeks before had gone down his stomach, and could be heard rattling about in his inside. These can hardly be regarded as simple cases of hypochondriasis, and many of these people ultimately become insane.

Hypochondriasis is pre-eminently a disease of adult and middle life. It is hardly ever seen in young people, and rarely makes its first appearance after the age of fifty. It is confined almost exclusively to men, and in women is for the most part replaced by hysteria. Beyond all other circumstances that favour its occurrence is the existence of a strong hereditary taint of insanity. No station in life gives immunity from hypochondriasis, but it is most frequently met with in those who, having retired from business, find the time hang heavily on their hands for the want of some active employment. So also those who from their social position have not been brought up to any occupation suffer greatly; those accustomed to sedentary pursuits, who neglect to take sufficient exercise; and those again who over-work themselves mentally, or who suffer from prolonged anxiety or strain. Reading men at the Universities are often tormented with great depression of spirits; often the conscience is over-sensitive, and the importance of becoming distinguished is exaggerated. Disappointment, loss of wealth, loss of husband, wife, children, friends, of health, character, or social position, are often assigned as causes of hypochondriasis, and in many cases the complaint appears to have originated in the moral collapse consequent on an over-exhausting labour, or on the sudden revelation to the

mind of an idle man that his time has been wasted, and that he is a mere burden on the face of the earth. The intellect of a hypochondriac is usually of a superior order, thus Shakespeare makes Hamlet, who may be regarded as a good type of a hypochondriac, a courtier, soldier, and scholar, "the observed of all observers."

A hypochondriac should be encouraged to engage in some active work. Probably the best thing that could happen to him would be to fall in love with some one—besides himself, that is. The great thing is to have an object in life, something to work at, something you can throw your whole energy into, heart and soul. Any one who has a tendency to be hypochondriacal should not be allowed to read medical books of any kind. If once he gets into the hands of a designing quack, there is no end to the mischief that may be done. Those little pamphlets that are thrust into your hands in the street should be systematically rejected. The tale they tell is so plausible that he must be a strong-minded man who can read them with impunity. The best thing, and the safest course, is to have nothing to do with them. Then there is another thing; if a man is hypochondriacal it is of no use trying to laugh him out of it, for you will not succeed. What he wants is help and encouragement, and not "chaff." When the appetite is poor it is important to improve it by quinine (Pr. 9), gentian and soda (Pr. 14), infusion of calumba or quassia, or something of the kind, taken, of course, before meals. When there is indigestion, with constipation and sluggishness of the liver, *nux vomica* is the best remedy; from five to ten drops of the tincture may be given in half a tumbler of cold water three times a day. Flatulence is often complained of, and three drops of cajepout oil taken on a piece of sugar occasionally will move the wind better than anything. When there is anæmia (*see ANÆMIA*) it will have to be removed by iron, which, if preferred, may be taken in the form of one of the natural mineral waters. When there is failure of strength, cod-liver oil is useful. When it cannot be borne, cream, butter, or some other form of fat, will often agree better for a time. Pancreatic emulsion is sometimes taken with benefit. Sea-bathing proves especially beneficial, and when it cannot be obtained it will be found a good plan to put a handful or two of sea-salt into the bath in the morning. When constipation is the chief trouble it should be remedied by a plentiful supply of vegetables and fresh fruit, rather than by medicines. It is very essential to obtain natural, quiet sleep, to procure which the bedroom should be fairly large and well-ventilated, and the bed should be free from drapery. There must be sufficient, but not too much, clothing. If there be restlessness, it may be relieved by a tepid bath the last thing before going to bed, or perhaps by briskly rubbing the skin all over with a rough towel. Rest is important, but it is seldom necessary to take more than nine hours' sleep out of the twenty-four. The hair should be kept short, and the teeth should be well cleaned night and morning. Dumb-bells are useful, and the best authorities recommend that their weight should be in proportion to that of the individual using them, as pounds to stones. Thus a man of ten stone should select instruments each weighing five pounds. Their use gives flexibility and tone to the muscles, and promotes general activity. Should club exercise be preferred, wooden bats are to be selected, about two feet in length, and each weighing from three to nine pounds, according to the strength of the individual.

HYSTERIA—HYSTERICIS.

A fit of hysterics may occur in a great variety of forms, but the following may be regarded as the description of a bad attack. The patient has been "put out," or "upset" about something. She begins talking vehemently and unreasonably, and becomes greatly agitated. She laughs or cries, or perhaps exhibits a combination of both. She is probably more or less aware of her condition, and of the notice her conduct is attracting, and she may, perhaps, apologise for or lament her weakness. Suddenly she loses all self-restraint, and seems entirely to abandon herself to the intensity of her feelings. She gives a cry or a scream, and falls down, throwing her arms about in a disorderly manner. She makes a great noise, utters incoherent sentences, sobs violently and repeatedly, and complains of her throat, her stomach, or breath. After a time she seems faint, or exhausted, or "worn out," and then gradually "comes to herself" again. These paroxysms vary greatly in different cases, not only in their severity, and the symptoms they present, but also in their duration. Sometimes it is "all over" in a minute or two, and the patient gets "all right" again, but more commonly this condition continues more or less for an hour or two, or, perhaps, the whole afternoon. After the paroxysm the patient commonly voids a large quantity of pale limpid urine, looking almost like water, and this is sometimes discharged during the fit.

At first sight this may appear somewhat like the description of an epileptic fit, but in reality very little difficulty is experienced in distinguishing between these two conditions. We have already pointed out the means of making the diagnosis (*see* EPILEPSY). It will be seen that in hysteria the onset of the attack is less sudden than in a real fit; the patient gives some kind of warning, and if you have had any experience of such matters, you will know pretty well what is going to happen. A young lady in hysterics takes good care not to fall unless there is some one by to catch her, or at all events to condole with her after she has fallen, and she is, moreover, especially careful not to fall in an ungraceful attitude, or to damage her clothes in falling. Of course there are exceptions to this rule, for some people go into hysterics regardless of expense. It will be noticed that an attack seldom comes on at night, or when the patient is alone. Then, in hysteria, unconsciousness is seldom complete; you may think the patient is quite insensible, but if you are rash enough to make any uncomplimentary remark, you will find that appearances are deceptive. In an hysterical fit there is never that frightful distortion of the countenance that one meets with in epilepsy. The pupils are quite natural, and are never dilated. The eyelids may quiver, or the eyeballs may be turned upwards, but there is no squinting, and the eyes never remain wide open with a ghastly stare. It is obvious that the patient can see, for the eyes are often directed towards some one standing near, and then rolled up again under the eyelids. The tongue is not bitten, although there may be a great deal of spluttering, and foaming at the mouth. The attack is often followed by exhaustion, but never by stupor.

When the fit is more severe than we have described, it is, probably, not a

case of true hysteria, but a combination of hysteria and epilepsy. These mixed cases are not common, but they are occasionally met with. In the majority of instances the attack is less severe than we have described. Although these fits constitute the most characteristic feature of hysteria, they are by no means essential to its existence. Many people are distinctly hysterical, but never have a fit of hysterics. We often meet with young women who, from their hysterical tendencies, are a source of constant anxiety to their friends, but who, nevertheless, never have any definite outbreak.

For the better understanding of that condition which we call hysteria, it will be convenient to consider in detail the circumstances that favour its production. It occurs almost exclusively in the female sex, but still we meet with it every now and then both in men and boys. Thus the case is recorded of a young doctor who was distinctly hysterical. He was exceedingly attentive to his own sensations, and fancied that he laboured under a number of diseases that had no existence but in his own imagination; he showed great uneasiness and infirmity of purpose; was what is called "very nervous," and had occasional outbursts of choking tears and laughter, exactly resembling those so frequently met with in the other sex. In women hysteria generally makes its appearance about the age of sixteen, or from that to twenty. When once established it may last for years—in fact, for a life-time. When it occurs in men, it generally begins later—about the age of forty. In them it is usually the result of over-work or excessive worry and anxiety, and that is about the age at which these begin to tell. There is often considerable deterioration of health, an impaired nutrition, and a feeble circulation, with exhausted brain. Hysteria occurs in all conditions of life, but it is more frequently met with in the unmarried than in the married, although it is by no means confined to the former. It was at one time thought that this preponderance of hysteria in single women showed that it was in some way connected with the womb, but this idea is now pretty well exploded. Its more frequent occurrence in single women is probably rather the result of their social surroundings. A woman, if not married, has, as a rule, very little to do—at all events, in the middle and upper classes of society. She has no housekeeping to attend to, no children to look after, nothing, in fact, to occupy her mind and rouse her out of herself, and this condition is pre-eminently favourable to the development of hysteria. On the other hand, a wife with a family has a good deal to occupy her attention, in fact, she is more likely to be over-worked than not; she has to think of other people besides herself, and an attack of hysteria finds no place in the routine of her daily duties. An active employment and hysteria seem almost to be antagonistic. Many women who are hysterical exhibit some disturbance of the menstrual function, but then, on the other hand, many women are irregular in this respect without exhibiting any tendency to hysteria, so that these two conditions obviously do not of necessity stand in the relation of cause and effect. There is no evidence to show that hysteria is hereditary, and this is no more than we should expect considering that it occurs with the greatest frequency in the unmarried. The determining cause of an outburst of hysterics is usually some mental or moral disturbance, often enough some trivial circumstance, which, taking the individual by surprise, overcomes her power of self-restraint.

We now pass on to the consideration of other symptoms which are usually present in cases of hysteria. There is often a perverted mental condition, and a marked inability or indisposition to exert the will. The patient believes that she cannot do certain things, and so confident is she in the correctness of her belief that practically she cannot do them. Perhaps, for example, she takes it into her head that she has lost all power over her legs. She asserts this strongly, and believes it so firmly that she fails to make the requisite effort to move them, and the result is that she is to all intents and purposes paralysed. But often, under the influence of some unexpected idea or emotion, or sensation, the effort is made, and the very thing is done which a moment before was believed to be impossible. "A patient may be carried into the room, and may fall when left for a moment to herself; tell her to walk, and a wooden doll seems as capable of movement; but, under the stimulus of a wish that what she is saying should not be overheard, she walks to the open door and closes it. Certain ideas seem rampant in her mind; she cries about them, and gesticulates in the wildest manner; tell her to be silent, to keep them to herself, or to control her feelings, and you find them exaggerated, and she affirms that 'all the world shall hear' what she has to say; but a gentle tap at the door, that may come from the hand of some one from whom she wishes to conceal her state, is sufficient in a moment to hush this stormy talk, to compose her face, to dry her eyes, and make her speak and smile with placid composure. Sometimes she speaks in a whisper only, and if asked to 'exert herself' or 'make an effort,' so that some particular friend who is a little deaf may hear what she has to say, the only effect is that the whisper becomes quite inaudible—that she makes less sound than ever, and often none at all. She moves her lips, but not even the ghost of a sound is heard to pass them; and yet this self-same person may, when no attention is directed to the voice, speak loudly enough to be heard and understood in the adjoining room. The fact seems to be that the will can be called into exercise only by some one dominant idea or emotion, and that it is this which determines the varying phases of the mental state." So says one of our leading authorities on this subject. This curious condition may, perhaps, be better realised by the consideration of a case related by another writer on nervous diseases. "A young lady," he says, "came under my charge for what was supposed to be a disease of the spinal cord. She had taken to her bed suddenly, soon after striking her back rather gently against the edge of a table, declaring that she could not walk. On examination, I was convinced that there was no disease whatever of the spine, other than that of a purely hysterical character, and I so expressed myself to her. She nevertheless insisted upon it that her spine was seriously injured, and she continued to keep her bed, lamenting her sad fate at being compelled to pass so long a time shut out from the enjoyments of life. There was no paralysis, or even simulation of it, for she moved her legs about freely enough in bed. But one evening her brother, who had long been absent, returned home. She heard the bustle in the house attendant upon his arrival, but all were too busy to pay any attention to her in her chamber up-stairs. Suddenly exclaiming, 'I can stand this no longer,' she sprang from her bed, rang for her maid, and, hurrying on her clothes, proceeded down-stairs and entered the drawing-room, to the great surprise of all her family."

A very common belief on the part of the victim of hysteria is that she is "not

understood." She is very apt to think that every one is against her, that she is neglected, and that even her best friends are intentionally unkind to her. She entertains an exaggerated belief in her own importance. She is always thinking of herself, and is apt to forget that she is not an equally agreeable object of contemplation to others. Often enough she is despondent and depressed, and she sheds tears profusely, but a few minutes after has forgotten her grief and laughs immoderately without any adequate cause. Laughing and crying alternate with almost ludicrous rapidity, and sometimes even they may co-exist. Often the patient is listless and indifferent to everything of ordinary interest, or she may be absorbed in some trivial occupation. She may exhibit great restlessness and impatience, with extreme irritability of temper on any attempt being made to control her in any way. It is not uncommon for these patients to display an emotion exactly the reverse of that which would be ordinarily excited. One, for instance, draws the chief prize in a lottery, and begins at once to cry and ring her hands. Another hearing that burglars have broken into the house and stolen the plate and jewellery, sits quietly in her chair, with her hands folded in her lap, and seems rather to enjoy it than otherwise.

Excited sensibility is another very common accompaniment of the hysterical condition. One patient cannot bear the light; another is distracted by the slightest sound; to a third all ordinary odours are intolerable; whilst to others certain tastes are highly objectionable. Here is an example:—"A middle-aged hysterical woman, whom I saw in the hospital a few days ago, had been lying for weeks with her hand before her eyes 'to keep out the light' of a dull London sky. Bringing a candle before her—the room being so dark from an accidental fog that I could not see the pupils—she shuddered, knit her brows, and held both hands between her and its feeble light. There was no undue contraction of the pupils, and when her mind was distracted to the condition of her front teeth—the light being still close to her eyes—the brows were relaxed, the hands removed, and there was no expression whatever of uneasiness." The same author, in describing another case, says:—"A lady to whom I was speaking lately, in a tone by no means loud, exclaimed in a voice much noisier than mine, and putting her hands to her ears at the time, 'Not so loud, not so loud!' but a moment afterwards she stirred the fire so vehemently, and made so much noise in the process, that it was positively annoying to myself, and this without appearing to give herself the least uncomfortable sensation."

Illusions and hallucinations are by no means uncommon in hysteria, and may be connected with one or more of the senses. In the majority of cases the patient at once recognises the fact that they are illusions, and nothing but illusions. She sees certain things, but she is aware that they are purely ideal and that they have no actual existence. She does not "believe in them," and they exert no influence over her actions. Moreover, they are rarely permanent, and soon take their departure.

Hysterical people often complain of pain, which is chiefly muscular in origin. It is often experienced in the chest or back, and especially between the shoulders and over the loins. A very common hysterical pain is that occupying some one point in the head; the patient speaks of it as a sensation like that which might be caused by driving a nail into the part. It is often situated just above one eyebrow, and it

sometimes comes on every day at the same hour, like brow-ague. Occasionally the pain is experienced in the breast, and a fear may be entertained that a cancer is breeding. Pain in the joints is a common manifestation of hysteria, and may be mistaken for some serious disease. It has been stated on good authority that among the higher classes of society at least four-fifths of the female patients who are commonly supposed to labour under diseases of the joints labour under hysteria and nothing else. This may be an exaggeration, but at all events it serves to show the frequency with which pain occurs as a symptom of hysteria. "Such pain, wherever it may be situated, usually requires strong adjectives for its description, and the account given of it is sometimes tediously minute. I have heard one hysterical lady enumerate and detail nine different kinds of pain in her chest! Of these, some were bearable, some 'intolerable,' others 'agonising,' four or five of them usually appeared together, and were present at the moment of description, and yet the face was calm, and simply conveyed the expression of interest in the description."

One of the commonest seats of hysterical pain is in the abdomen, just below the ribs, and it occurs with greater frequency on the left side than the right. Sometimes the pain is lower down, either in the groin or a little above it, and then, too, the left side is more frequently affected. The pain is an acute—nay, a very acute—pain, and the patient cannot tolerate the slightest pressure on the part, and can barely suffer the weight of the bed-clothes. It is not only the deeper parts, but even the skin and muscles, that exhibit this tenderness. Many a patient has been leeches and blistered under the impression that she had peritonitis, when in reality the symptoms were purely hysterical in nature.

In some cases of hysteria there is complete loss of sensibility over the whole of one half of the body. On that side you may prick them, run needles into them, as much as you like without their feeling it, and what is more, no bleeding follows the injury. This fact was first discovered in the case of a patient in one of the Paris hospitals. On leeches being applied, their bites yielded very little blood on one side, whilst on the other it followed as usual. This loss of sensation is a symptom which requires to be sought for, and, in fact, many patients are quite surprised when its existence is revealed to them. A curious circumstance is that the lost sensibility may, in many cases, almost immediately be restored by the application to the skin of plates of metal, such, for instance, as gold coins. This fact was known and published years and years ago, but it has recently been rediscovered and received by the medical world with considerable *éclat*.

Many of the ordinary processes of life with which the majority of us go on unfelt or unheeded are keenly appreciated by the hysterical patient. She feels the movements of the heart, the pulsation of the vessels caused by the circulation of the blood, and even the passage of the food from the stomach into the bowels. Many of these people complain of a feeling like a lump in the throat; sometimes it seems as though it would choke them, and an effort may even be made to get rid of it by swallowing a little water or a morsel of bread. We need hardly say that the sensation is perfectly imaginary, and that there is no lump or anything of the kind there. Hysteria is a complaint that may at times simulate almost every disease under the sun. Sometimes even vomiting of blood may be hysterical in origin. In proof of

this, we cannot do better than quote the following case, which rests on the evidence of a physician of the highest eminence in his profession :—"A romantic girl," he says, "was for some months under my care in the hospital with this complaint. She vomited such quantities of dark blood (which did not coagulate, however), as I should not have thought possible if I had not seen them. Day after day there were potfuls of this stuff; yet she did not lose flesh, and she menstruated regularly; and, what was very curious, the vomiting was always suspended during the menstrual period, and recurred again so soon as the natural discharge ceased. I said she was romantic, but I should rather have said that she had that peculiar mental constitution which belongs to hysterical females. She used to write me long letters of thanks for my attention, though I was heartily tired of her; and these were couched in all the fine language of the Minerva press. At last I sent her away, just as bad as when she came into the hospital. Five or six years afterwards she called at my house with a present of some game, and told me she had got married to a hair-dresser, and was quite recovered."

We occasionally observe in hysterical patients, especially at the catamenial period, a complete suppression of urine, lasting from twenty-four to thirty-six hours. There may, perhaps, be some uneasiness experienced, and the pulse may be quickened, but after a short time a few spoonfuls of urine are expelled, and the normal state is restored. In other instances, during the lapse of several successive days, weeks, or even months, the quantity of urine secreted in the twenty-four hours may be quite insignificant or almost nil. Occasionally there is complete suppression for days together. When matters take this turn there is superadded, as it were of necessity, another phenomenon, which may be regarded as the complement of the first, and that is vomiting, the ejected matter presenting the appearance and exhaling the odour of urine. This may go on for weeks or months without any visible disturbance of the general health. Of course, this condition may be feigned, and girls have been known to drink their urine in order to conceal the fact of their having been able and obliged to void it, but in many cases the patients have been so strictly watched that there was no possibility of deception, and no reasonable doubt can be entertained of the truth of the phenomena we have described.

It must be admitted that many of these facts are very difficult to explain, but they are none the less real for that. Many doctors refuse to have anything to do with them, declaring that they fall within the province of Dr. Lynn or Mr. Maskelyne, or Robert Houdin, rather than within that of the physician. That is absurd, and those who are acquainted with the care and accuracy with which observations are now carried on in the wards of our hospitals, know that deception is well-nigh impossible. Hospital nurses, nowadays, are intelligent, well-educated young women, with sharp eyes and quick ears, and they are as incapable as the physicians of countenancing any imposture. More than that, in some cases in which doubts have been expressed as to the reality of the phenomena, the patients have for a time been placed in a straight waistcoat, so that they were powerless to help themselves in any way.

In a case of hysterical suppression of urine, which was in one of the Paris hospitals in 1871, the patient also suffered from contraction of all her limbs. The

contraction was as perfect as it is possible to conceive—in fact, it was absolute—persisting night and day, during sleeping and waking, even resisting the influence of sleep induced by chloroform. As her physician says, “Better conditions could not be desired to render surveillance easy. I took care, moreover, to place near her two devoted patients, bed-ridden like herself, who were ready to reveal all if they should discover any trickery. I had there the best possible police, that of women over women, for you are aware that if women enter into any plot among themselves they very seldom succeed. This statement will, I believe, be sufficient to convince you that simulation was impossible.”

There is a group of symptoms, known to doctors as “spinal irritation,” which if not identical with hysteria, is, at all events, closely allied to it. Its nature may be gathered from the following condensed description of a case:—

The patient, an unmarried lady, aged twenty-three, first came under observation complaining of pains in the head and face, loss of appetite, nausea, flatulence, palpitation, breathlessness, “sinking feelings,” weakness, and low spirits. The pain, which was the chief suffering complained of, was sharp and neuralgic in character, and varying in its seat, being sometimes in one part of the head or face, sometimes in another, and generally on the left side only. In the head it was confined to a spot which might be covered with the tip of the finger. Headache, in one form or another, was brought on, or exaggerated, by any effort, physical or mental; it was usually relieved by lying down and keeping perfectly still; it was scarcely ever absent except when faceache had its turn; and sometimes it was so continuous and oppressive as to necessitate remaining in bed for days together. Nausea and sickness were its frequent accompaniment, and vomiting and great prostration were its common termination. In the upper part of the spine there were considerable tenderness and a disagreeable feeling of weight, and pressure there brought on or increased the headache, and induced a feeling of nausea and oppression. The feet were always cold; “chills and flushes” were of frequent occurrence, and so were yawning, sighing, and stretching of the arms. Sleep was often made hideous by nightmare; fits of lowness of spirits and crying, attended by a sense of choking, as from a ball or knot in the throat, and followed by plentiful gushes of pale, limpid urine, were brought on by the most trivial causes, and the manner and appearance were altogether those of an eminently nervous or hysterical person.

These symptoms, it appeared, had their starting-point about twelve years before, in the shock and grief caused by witnessing the death of a brother, her last remaining near relative, in an epileptic fit. Before that the patient had enjoyed fairly good health. Her family history, however, was bad, for in addition to the brother who died in the fit, it appeared that she had lost her father from consumption, and that her mother was then under confinement in a lunatic asylum.

Under the use of a more liberal diet, with ammonia and calumba, and with occasional blisters to the nape of the neck, health was re-established in little more than a month.

A year or so later this young lady again returned to her medical attendant, looking very worn and thin, with all her old symptoms in force, and with cough and difficulty of breathing in addition. The cough was very violent; barking,

unattended with expectoration, and often carried on until it ended in retching and vomiting. The difficulty of breathing was chiefly at night ; usually it was slight, but now and then quite asthmatic in character ; almost invariably it was accompanied by a sharp pain in the left side, or by severe aching in the left shoulder and down the left arm. An examination of the chest failed to detect anything wrong with the heart or lungs, but pressure along the spine revealed tenderness in the neck and back, and at the same time brought on cough, deep inspirations, pain and throbbing at the pit of the stomach, and a feeling of great faintness and breathlessness. On this occasion a very fair state of health was soon re-established by the plan of treatment which proved successful in the first instance.

Two years later, this lady, then married again, applied to her doctor. For three weeks she had been in bed with her knees bent, and the thighs drawn up tightly against her abdomen. This contraction was unremitting during the waking state, and only partially relaxed during sleep ; it was unattended by pain, and could for the time be overcome by slow and steady extension. The headache and faceache had quite gone, and so had the pain at the pit of the stomach, and in the left shoulder and arm ; the cough, and difficulty of breathing, and palpitation, were of rare occurrence, the appetite and digestion, and the action of the bowels, were tolerably natural, and the patient now complained chiefly of colicky pains in the lower part of the abdomen, pains often very severe and sickening about the loins and hips, with constant calls to pass water, attended with considerable pain on so doing. The spine was now tender, not in the upper part, but quite low down towards the loins ; and pressure over this region brought on colicky pains in the lower part of the abdomen, with an almost irresistible impulse to pass water then and there. Pressure in the upper part of the spine gave rise, not to the marked symptoms produced in this way in the two previous illnesses, but simply to a disagreeable thrill all over the body. There was no numbness or tingling in the legs or elsewhere, but tickling the soles of the feet gave rise to painful spasmodic shocks in the legs, to a disagreeable thrill passing up the body as high as the throat, and to the involuntary escape of a small quantity of urine. The condition of the general health was fairly good, in fact much better than during the two previous illnesses.

It appeared that somewhat more than twelve months before, after having been quite well for the year previously, the patient married, and in due course became pregnant. In the early months of pregnancy she had much headache, depression, weakness, and sickness ; but after a while these symptoms passed off, and everything went on smoothly and satisfactorily until two months after confinement, when her baby died suddenly. The fretting about her baby brought back the old headaches, the headaches produced great sleeplessness and irritability of the stomach, and then came on a state of uncontrollable fidgetiness which kept her incessantly moving about until her legs, one leg especially, failed altogether, and obliged her to take to her bed, when on the very next morning the leg had become contracted. The treatment on this occasion consisted chiefly in a liberal allowance of food and wine, in repeated blisterings over the spine, and in the administration of bromide of potassium ; the result was the cessation of the contractions in about three weeks, and the complete re-establishment of health in about two months and a half.

Tenderness over the spine is always a prominent symptom in these cases of so-called spinal irritation. Often enough, however, it is not complained of until specially inquired after, and now and then its existence is not even suspected by the patient until she is made to wince on the application of pressure. Nervous pains, neuralgias of different kinds, often shifting suddenly from one place to another, are a very common, perhaps the most common, symptom of this affliction. They are often brought on by lifting any weight, by twisting or straining the back, or by any effort, mental or physical; and as often they are relieved, to some extent at least, by lying down. Nausea, retching, and vomiting are also common symptoms, as are spasmodic cough and difficulty of breathing. Palpitation is sometimes met with, often in connection with a feeling of pulsation at the pit of the stomach, throbbings in the temples, heats and flushes, and a tendency to faint. The contraction of the limbs, which formed so conspicuous a symptom in the case we have quoted, is by no means of uncommon occurrence in this form of hysteria. The lower extremities are the parts most frequently affected, but occasionally the arms are also involved. This contraction, which is generally painless, may continue for weeks or months, even during sleep, or there may be occasional intermissions of short and uncertain duration. The onset of the attack is usually very sudden, and the departure is often equally abrupt. In a case occurring in one of the Paris hospitals, there was contraction of the leg of at least four years' standing. On account of the misconduct of this patient, her physician gave her a stern admonition, and threatened to turn her out. On the next day the contraction had entirely disappeared. In another instance the patient was charged with theft, and the contraction, which had lasted for two years, vanished suddenly from the moral shock caused by this accusation. As a rule, there is no real paralysis of the limbs, and the functions of the bladder and bowel are not interfered with. One of the most remarkable characteristics of this peculiar complaint is the suddenness with which all the symptoms may disappear and be replaced by others. The victims of this disorder are, with few exceptions, of a distinctly hysterical or nervous temperament. They are very prone to pass under or after any strong emotion or excitement large quantities of pale limpid urine. They usually suffer from sudden and distressing flatulent distension of the stomach and bowels, with loud rumblings and explosions, accompanied by the feeling of a ball rolling about, first in the left flank, and then mounting or tending to mount into the throat, where it gives rise to a sense of choking and to repeated acts of swallowing. At times they suffer from bursts of crying, sobbing, or laughing, and they may sigh and yawn, and stretch the arms, and have fits of convulsive agitation and struggling. Other symptoms from which they frequently suffer are breathlessness, nervous cough, palpitation, throbbing in the temples or at the pit of the stomach, flushes and chills, fainting, hiccup, nausea and vomiting, aversion to food or unnatural craving for it, heartburn, languor and debility, fidgetiness, tremulousness, singing in the ears, and many others of a similar nature.

Whatever the symptoms complained of may be, we suspect that the affection is hysterical if the patient is a young unmarried woman, if her menstrual functions are performed irregularly, and especially if, at some former period, she has suffered from fits of hysteria. Our suspicion is confirmed if we find

that these symptoms have existed for a considerable time, without any corresponding deterioration of the general health or strength. When the complaint simulated is some form of inflammation, the thermometer renders good service in enabling us to distinguish between the true and false disease. In real inflammation there is always elevation of temperature, whilst in its counterfeit presentment there is no fever. Hysterical affections have all a strong family likeness, and this often enables us to decide upon the nature of a doubtful case. Moreover, there is a peculiar expression about hysterical women, impossible almost to define, yet readily recognised when once it has been observed. They crave for sympathy, and always endeavour to make out that they are worse than they really are.

Hysteria, when once established, is a very difficult complaint to cure. The most hopeful cases are those which have been recently established. In young people much may be done to avert a tendency to hysteria by judicious mental and moral training, but when the disease has taken a firm hold of its victim, it often requires a long course of treatment to restore the nervous system to its former degree of stability. It is important to keep the bowels in order by carefully-regulated diet, or, if necessary, by the cautious administration of aperients. The cold sponge-bath, exercise in the open air, either on foot or horseback, and the avoidance of hot, close rooms, are important elements in treatment. Hysterical girls are often in the habit of sitting up late at night novel-reading, and of lying in bed in the morning; this should be put a stop to without a moment's hesitation. Systematic study should take the place of light literature, a change which works wonders in improving the general mental and moral condition. There is no one drug that can be trusted to cure hysteria, and each case must be treated on its own merits. The first thing is to endeavour to improve the condition of the general health. When there is anæmia we give iron (Prs. 1—7), and when there is want of nervous energy we rely on quinine (Pr. 9), or nuxvomica or phosphorus (Pr. 53 or 54). If there be indigestion or flatulence, we resort to one or other of the remedies mentioned when speaking of those complaints. Decided benefit is often derived from a course of bromide of potassium (Pr. 31), and sometimes large doses succeed when smaller have failed. Valerianate of zinc is a valuable remedy in hysteria. The chief indications for its employment are hysterical spasms coming on, chiefly in the evening, a lump in the throat, a profuse discharge of clear watery urine, great sensitiveness and tendency to shed tears, and neuralgia, especially if situated in the neighbourhood of the groin. The dose is five grains three times a day, and it may be given either dissolved in water or in pills. Musk and assafoetida are often used in hysteria, but they seldom do much good, at all events permanently.

Now, as regards the "spinal irritation" cases. The application of leeches or a blister to the affected portion of the spine will often do a great deal of good. Cases that have existed for months are sometimes cured in a single day by a good large blister. As regards medicine, benefit is often derived from the use of the ordinary tonics, such as quinine, steel, cod-liver oil, and the different preparations of phosphorus. It is, no doubt, advisable to avoid standing or walking to the extent of

producing fatigue, but there is no necessity, except as a very temporary measure, to insist upon the recumbent position being retained for any length of time. A "spinal apparatus" is seldom or never required. As regards diet, the great thing is to see that plenty of nutritious food is taken, in conjunction with wine or some other alcoholic drink. In many cases there is a great prejudice on the part of the patient against the use of stimulants, but this must be overcome, for the progress of cure is greatly facilitated when the diet is made to include a fair share of some alcoholic liquid.

During a fit of hysteria there is very little to be done. The patient is in no danger, and will come round all in good time if let alone. Her dress should be loosened, she should be prevented from hurting herself by striking the floor or furniture, and she should have plenty of fresh air. Smelling salts should be held under the nostrils; and, if she can swallow, 15 grains of bromide of potassium should be given. Should the insensibility, or apparent insensibility, continue, cold water may be poured on the face. An old writer, speaking of cold water, recommends that its application should be "sudden and lavish," but the great objection to it is that it spoils the carpet. A very good substitute is to dip the end of a towel in cold water, and then flap the face and hands with it pretty vigorously. An attack may often be arrested by closing the mouth and nose with the hand, so that the patient cannot breathe. She soon begins to struggle, and at last succeeds in getting loose, and taking a deep breath, and this often stops the fit. Sometimes the fit may be stopped by keeping up firm pressure with the hand over the painful spot in the groin for three or four minutes or more. A calm manner, the absence of all appearance of alarm, and of either scolding or distressing sympathy, will in many cases bring the paroxysm to a speedy conclusion.

There can be no doubt that often recovery is retarded by injudicious manifestations of sympathy on the part of friends and relatives. Their assiduous tenderness serves only to keep up the craving for attention and interest which is so constant and striking a feature of the malady. In illustration of this fact, a physician tells the story of a lady who had terrified her friends and excited the greatest commotion by threatening to put an end to her existence by jumping out of the window. "When I saw her," he says, "she was strapped down to a bed, and was being supplicated by half a dozen people in the room not to kill herself, to which she was energetically replying that she would. I loosened the straps, opened the window, and told her to jump out. She walked to the window, looked out for a moment, and then, applying no very polite epithet to me, went back to bed, and I heard no more of her suicidal desires." In every case of hysteria it is of the utmost importance that, while the value of self-control is inculcated, healthy mental occupation and recreation should be afforded. Travel is of inestimable advantage, and, above all, association with men and women whose intellects control their emotions, and who are endowed with sound common sense, and that tact and knowledge of human nature which for the purposes of every-day life are of greater value than many other qualities often more highly estimated.

INDIGESTION, OR DYSPEPSIA.

Indigestion is the prevailing and fashionable malady of civilised life. The doctor is more frequently consulted about disorders of digestion, and those connected with eating and drinking, than about any others.

Rightly to understand that condition which we call dyspepsia, it is necessary to have some acquaintance, however rudimentary, with the physiology of digestion. In the natural process of digestion the food is first masticated and mixed with saliva, and then swallowed. In the stomach it is moved about by a kind of revolving or churning action, and is acted on by the gastric juice, which reduces it to a semi-fluid consistence, and converts it into a uniform pulp known as "chyme." It then passes into the intestines, where it is mixed with bile, and with the pancreatic juice, which is secreted by the pancreas, or sweetbread, and closely resembles saliva. The nutritive portion of the food is now taken up by the veins and other vessels, and is by them carried into the blood, whilst the excrementitious part, which is useless for the purposes of nutrition, is conveyed out of the body. The gastric juice is a secretion poured out by and peculiar to the stomach. It is an acid fluid, and to its acid, combined with a substance known as "pepsine," it owes its solvent or digestive properties. The readiness with which the gastric juice acts on different articles of food is in a great measure determined by their tenderness and state of division. By minute division of the food, the extent of surface with which the digestive fluid can come in contact is increased, and its action proportionately accelerated. A weak, dyspeptic stomach acts slowly, or not at all, on solid lumps or tough masses of food. A knowledge of this fact affords an explanation of one of the commonest causes of dyspepsia, and at the same time suggests the appropriate mode of treatment. Persons who are subject to dyspepsia should never eat in a hurry, as busy men and those of studious and solitary habits often do. They should be cautioned not to "bolt" their food, which should be well ground in the mill of Nature's own providing. It has been supposed, and the supposition appears feasible, that the increased longevity of modern generations is in some degree attributable to the capability of chewing their food which the skill of the dentist prolongs to persons advanced in life. Tender and moist substances offer less resistance to the action of the gastric juice than do tough, hard, and dry ones, for they are thoroughly penetrated by it, and are thus attacked not only on the surface, but at every part at once. The readiness with which a substance is acted on by the gastric juice is, however, no indication of its nutritive value, for a substance may be nutritious, and yet, on account of its toughness and other qualities, hard to digest, and many soft, easily-digestible bodies contain comparatively little nutriment. It is obvious, however, that a substance which the stomach cannot digest is incapable of nourishing the body, and there is therefore, so far, a necessary connection between the digestibility of a substance and its power of nourishing.

These are not mere matters of speculation, but of actual observation. Some years ago an American physician, Dr. Beaumont, was afforded the singular privilege

of looking whenever he liked into the interior of a healthy man's stomach, and watching the process of digestion. This privilege was obtained by what must be regarded, from a medical point of view, as a happy accident. It appears that a young Canadian, Alexis St. Martin, had a portion of the skin, muscles, and ribs of the left side of his body blown away in a gun-shot wound, which laid open the stomach also. He recovered from the frightful injury, but with an open wound in the side which led directly into the stomach. The opportunity was taken, with the patient's consent, of instituting a number of experiments on the process of digestion. Different articles of food were eaten by St. Martin, and the action of the gastric juice upon them in the stomach was carefully watched. It is difficult to over-estimate the value of the information so obtained. In fact, it is to these observations that we owe much of our knowledge respecting the relative digestibility of different articles of food. It was found that beef was more readily digested than mutton, and mutton more readily than either pork or veal. Among the substances most quickly digested were rice and tripe, both of which disappeared in an hour. Fowls are far from possessing the digestibility usually attributed to them, but turkey is of all kinds of flesh, except venison, the most readily disposed of.

There are certain substances upon which the gastric juice exerts no action, and it should be remembered that whatever goes through the stomach untouched, passes undissolved through the whole of the alimentary canal, and appears in the motions unchanged. The frequency with which such substances as dried currants and apple-pips are passed unaltered is familiar enough to all. Indigestible substances, instead of being at once excreted, are occasionally retained in the stomach, causing pain, indigestion, and irritation for days and days together.

There are many circumstances, besides the nature of the food, which exert an influence on the process of digestion. First and foremost among these is the quantity of food taken ; for the efficient performance of digestion the stomach should be fairly filled, but not distended. Dr. Beaumont's experiments showed that a certain bulk was necessary for the performance of healthy digestion. This fact has long been known by practical experience to uncivilised nations. Thus the Kamschatdales are in the habit of mixing earth or saw-dust with the train oil on which alone they are frequently reduced to live, and the Veddahs, or wild hunters of Ceylon, on the same principle mingle the pounded fibre of soft and decayed wood with the honey on which they feed when meat is not procurable. The time which has elapsed since the last meal was taken should, for the effectual performance of digestion, be sufficient to ensure the stomach being quite clear of food. The amount of exercise taken previous and subsequent to the meal is not without its influence, gentle exercise being favourable, and over-exertion injurious, to digestion. Then there is the state of mind, tranquillity of temper being apparently essential to quick and easy digestion. In addition may be mentioned the state of bodily health, and the state of the weather.

This naturally brings us to the consideration of the causes of dyspepsia. These will probably have been in a measure anticipated from what we have said concerning the normal process of digestion. There is no more frequent cause of dyspepsia than an excessive consumption of food. Over-eating, whether it consists

in a single surfeit, or in that habitual indulgence, to excess of which so many of us are guilty, is especially injurious. Drinking too much fluid of any kind at a meal is mischievous, by over-diluting the gastric juice and impairing its solvent power. Imperfect mastication of food, either from carelessness or hurry, or owing to the pain of bad teeth, is another cause. Indigestion may arise from an improper arrangement of the meals; some people, for example, take only one meal in the twenty-four hours, whilst others huddle all their food into the stomach at four or five periods within seven or eight hours, and then leave it idle for sixteen or seventeen hours. The error most frequently committed is that of not allowing a sufficient time to elapse between the meals to permit of the stomach doing its work and getting a proper rest. The stomach is a long-suffering organ, but still you must not impose on its good-nature; it must have time to perform one task before it can set about another. It is just as bad to allow too long an interval to elapse between the meals as too short a one, and many cases of severe and obstinate dyspepsia have been induced by the habit of going without anything to eat from an early breakfast to a late dinner. A very marked effect of long-fasting is familiar to all under the title of having "overstayed the appetite," and it has been found that the secretion of gastric juice is greatly diminished by long abstinence from food.

Much has been urged respecting the injudicious admixture of foods as a cause of dyspepsia. Of the frequently injurious influence of a mixture of many different kinds of even wholesome articles of diet there can be no doubt. It is impossible, however, to make any very positive assertion on this point, for within certain limits variety is undoubtedly conducive to health, and the too strict limitation to one or two kinds of food is frequently quite as detrimental as excessive heterogeneous indulgence. Eating indigestible or unwholesome food is, as every one knows, one of the commonest causes of dyspepsia. In addition to substances which may be regarded as generally more or less injurious there are many which become injurious only from the circumstances or condition under which they are taken. For example, there are many people who can eat pastry in the middle of the day, but who don't dare touch it for supper or at a late dinner.

Want of bodily exercise, excessive labour, inordinate intellectual exertion, mental anxiety, and general debility, are all prominent factors in the production of dyspepsia. The nervous irritability of many literary and scientific men has its origin in dyspepsia. Sedentary pursuits, with over-mental labour, will soon disturb the digestive functions, for, as has been very justly said, one digests with the legs almost as much as with the stomach. There can be no doubt that in many cases dyspepsia may be traced to excessive indulgence in tea or coffee, or alcoholic liquors, to the inordinate use of condiments, to immoderate smoking, or even to the practice of taking large quantities of snuff.

We must now consider the symptoms of dyspepsia. They vary very much both in nature and severity, one individual suffering severely when his dinner "disagrees" with him, whilst another experiences merely a slight depression. In chronic cases, however, there will usually be loss of appetite, pain, or a feeling of weight and fulness in the chest or stomach, flatulence or wind, nausea or vomiting, costiveness

alternating with diarrhœa, acidity, a furred tongue, and offensive breath. In addition there may be dull headache, giddiness, and disinclination for exertion. All these symptoms need not, of course, be present in every case, but some of them are sure to be.

The appetite in dyspeptics is very variable. In some it remains but little affected, there being simply a distaste for certain articles of food, whilst in others there is an absolute repugnance to all forms and varieties of food. It occasionally happens that the appetite is absolutely increased, whilst in many instances a persistent sense of uneasiness or emptiness, with constant craving for food, is experienced. More rarely the appetite becomes depraved, the patient not merely craving for aliments of an unwholesome character, but swallowing earth, coals, chalk, and other substances which are not only void of nutritive properties, but are disgusting and even absolutely injurious. Thirst is usually absent, at least, to any abnormal degree. Sometimes there is positively a dislike for fluids, which not unfrequently, especially when taken at meals, aggravate the dyspeptic symptoms.

A sensation of pain or uneasiness in the chest or stomach is a very frequent symptom of dyspepsia. In some cases it comes on mainly when the stomach is empty, and disappears under the influence of a meal; in others it comes on only after food. Sometimes it is more or less persistent, being present when the stomach is empty, and increasing in severity after eating. Sometimes it is experienced immediately after a meal, but it may be delayed for two, three, or even four hours.

Respecting flatulence, or wind, we shall have more to say presently. It is usually a prominent symptom of dyspepsia, and eructation may be for a time almost continuous.

The nausea and sickness of dyspepsia are often extremely distressing. Vomiting may ensue when the stomach is empty, but more frequently it occurs soon after a meal; occasionally it is delayed for an hour or more. The vomited matter may consist of food, almost unaltered, or of a clear watery fluid, having many of the characters of saliva. Between these two extremes there are all kinds of gradations. The quantity also varies very much, there being in some cases only a few tea-spoonfuls, whilst in others the whole contents of the stomach are forcibly ejected.

Pyrosis, or water-brash, is of frequent occurrence in connection with dyspepsia. It is characterised by "heartburn," or a burning sensation in the stomach, followed by the vomiting, or rather eructation, of a thin watery liquid resembling saliva, sometimes sourish, but usually insipid and tasteless. The quantity of fluid rejected at one time may vary from a mouthful to a pint or more.

The tongue in dyspepsia varies considerably in character, but it seldom or never presents an entirely healthy appearance. When it is habitually clean and moist, neither too florid nor yet too pale, and of natural size, you may be pretty sure that digestion is efficiently performed. When, on the contrary, the tongue is furred, with excessive redness of the tip and sides, or when the whole organ is swollen, flabby, and indented at the edges, there is some interference with the functions of the stomach.

Costiveness is a very frequent concomitant of gastric affections, and this sluggish state of the bowels often aggravates, if it does not produce, dyspepsia. The evacua-

tions may be dry and solid and hard, and are usually very offensive, and whiter in colour than natural. When there is much irritation, diarrhœa may supervene, and when the motions are liquid they are often frothy, from fermentation having taken place.

Palpitation of the heart, irregularity of the pulse, and even fits of asthma may arise from a disordered stomach. Even when the patient does not suffer from distinct asthmatic attacks, there is often a sensation of shortness of breath. The feeling is of a load or oppression in the upper part of the chest, especially across the breast-bone, impelling the patient to sigh or draw a deep breath in order to relieve the sensation, which, however, speedily returns. It is not at all uncommon for sufferers from indigestion to torment themselves with the belief that they have disease of the heart. Dyspeptic patients are particularly liable to suffer from different forms of skin disease, such as nettle-rash and acne, the latter appearing as red spots about the nose and cheeks. The severer forms of indigestion, especially when there is much sickness, are often attended with considerable debility and emaciation. In fact, the loss of flesh will sometimes rival that met with in cancer or consumption.

We must not conclude our account of the symptoms of dyspepsia without referring—however briefly—to the mental condition which it engenders. We all know, many of us from personal experience, that indigestion interferes with intellectual work, and impedes the expression of thought. The habitual dyspeptic often exhibits great lethargy, which may become so great as to cause him to be incapable of even the slightest mental exertion. After meals he usually experiences an invincible desire to sleep, and exhibits an insurmountable repugnance to move. He often displays a marked degree of nervous irritability. He is low-spirited, and his low spirits may vary from slight dejection and ill-humour to the most extreme melancholy. He is frequently morose, and so irritable that he cannot bear to be thwarted in the slightest degree, either by word or deed. He misconceives every act of friendship, is suspicious of those who desire to serve him, and exaggerates slight ailments into substantial grievances. In fact, the confirmed dyspeptic makes anything but a pretty picture. The mental condition so often associated with dyspepsia did not escape the acute observation of Sydney Smith. Referring in his characteristically humorous way to the horrors of indigestion, he says :—

“The longer I live the more I am convinced that the apothecary is of more importance than Seneca, and that half the unhappiness in the world proceeds from little stoppages, from a duct choked up, from food pressing in the wrong place, from a vexed duodenum, or an agitated pylorus. The deception as practised upon human creatures is curious and entertaining. My friend sups late; he eats some strong soup, then a lobster, then some tart, and he dilutes these esculent varieties with wine. The next day I call upon him. He is going to sell his house in London, and to retire into the country. He is alarmed for his eldest daughter’s health. His expenses are hourly increasing, and nothing but a timely retreat can save him from ruin. All this is lobster; and when over-excited nature has had time to manage this testaceous incumbrance, the daughter recovers, the finances are in good order, and every rural idea effectually excluded from the mind. In the same manner old friendships are destroyed by toasted cheese, and hard salted meat has led to suicide.

Unpleasant feelings of the body produce correspondent sensations in the mind, and a great sense of wretchedness is sketched out by a morsel of indigestible and misguided food."

Now, as to the treatment of dyspepsia. If you really want to get rid of your indigestion, and we suppose you do, it is not such a very difficult matter. In the first place you will have to regulate your diet, for without this all your efforts will be futile. The great secret is to take the most easily assimilable food, and at the same time to avoid overloading your stomach. Your food should be varied, but selected for its digestibility. Three moderate meals a day are usually sufficient unless you are a very hard worker, but sometimes four are necessary. Meat should be eaten at least twice a day. Beef and mutton, and game with the exception of hares and rabbits, are excellent; but pork and veal are very indigestible, and should be avoided. If you like chicken, or sweetbread, or tripe, take them by all means. You must avoid all meats that have been hardened by culinary art or by condiments, and all cured meats such as ham, tongue, sausages, and so forth. Eggs, if they agree with you, are to be recommended. Fish is not so good, but may be eaten in moderation. Oysters often agree well, but differences in this respect are observed in different individuals, and some people cannot take them.

Vegetables should be by no means excluded from your diet, but a certain amount of caution is requisite in their use. If they cause much flatulence, their place may be supplied by rice or macaroni, or by some kind of fruit, such as grapes or strawberries, or, better still, stewed prunes. Your potatoes should always be well boiled, unless you like them fried or mashed, and they should not be new. Other kinds of vegetables should also be fresh and carefully cooked. Turnips, parsnips, carrots, and Jerusalem artichokes may, perhaps, not agree with you; but you may take spinach, vegetable marrow, beet-root, and young peas and French beans with perfect safety. All raw vegetables, such as salads, cucumbers, and pickles, must be eschewed.

Bread should not be eaten new. If you cannot get on with the ordinary household bread, try the aerated bread. It is very nice for a change, although few people like it for a permanency. If this does not do for you, you will have to fall back on biscuits or toast. Fresh butter you may eat in moderation.

Pastry is to be eschewed, but light farinaceous puddings—rice, sago, and arrow-root—are digestible enough. Fried dishes are forbidden, and in the same category must be placed shell-fish, nuts, pickles, and cheese. Sugar may be used in moderation, but jams, marmalade, and other condiments are seldom admissible, except perhaps in the case of elderly people and those habituated to their use. "Things sweet to taste prove in digestion sour;" moreover, they possess very little power of increasing the flow of gastric juice, and are apt to set up irritation.

What ought you to drink? May you take wine or beer, or brandy and water? You would be much better without anything at all, especially if you have been in the habit of taking a good deal. Not good to give it up all at once? Not at all, there is not the slightest danger. Do you not know that the health of even the most inveterate spirit-drinker improves instead of suffers upon the sudden and total abstinence from spirits? But you are not an inveterate spirit-drinker? Quite so;

but the principle is the same. Well, if you really cannot do without something in the way of stimulants, we suppose you must have it. Abernethy used to say that nobody could be persuaded to pay due attention to his digestive organs till death or the dread of death was staring him in the face, and he was about right. At all events, we shall have to keep you strictly within the bounds of moderation, and you must not take anything except at meals. What may you have? Well, if you really must have it, it does not matter so very much how you take it—sherry, or claret, or hock, or champagne, just as you like. The best way is to ring the changes on them, if they all agree with you equally well. You must strictly limit the quantity: a pint bottle of champagne, three fair-sized glasses of sherry, or a pint of good claret is quite enough for the day. Raw spirits are strictly forbidden—no, not even your *petit verre*. May you have beer? You may try it if you like, but malt liquors are very apt to produce wind, so do not grumble if you have to suffer for it afterwards. Simple aerated waters, soda or seltzer, often prove very grateful to an irritable stomach. If you take coffee after your dinner, do not taste it for at least half an hour after you have finished your meal.

The following plan of diet is recommended in, say, the case of a gentleman about forty, engaged in business for six or eight hours daily, and troubled with an irritable, revengeful stomach, and no great amount of vital power:—

- 7.0 A.M.—A cup of tea or a tumblerful of equal parts of milk and soda water, or of milk and lime water, or of milk with just a dash of rum or brandy.
- 7.30 A.M.—*To get up*. Cold or tepid sponge-bath, containing sea-salt; brisk rub with rough towel. Dumb-bells or Indian clubs. Dress leisurely. If fine, five or ten minutes' walk in open air.
- 8.30 A.M.—*Breakfast*. One cup of tea or coffee with plenty of milk, or cocoa made with nibs. Sole, or whiting, or the lean of a not over-cooked mutton chop, or one or two new-laid eggs lightly boiled. Stale bread, or toast with a little fresh butter. Watercresses occasionally if they do not cause flatulence.
- 1.0 P.M.—*Luncheon*. Oysters, if they agree, or slice of roast mutton. Biscuit, or stale bread. One glass of dry sherry. If there be little or no appetite, a raw egg beaten up in a glass of sherry, and taken with a biscuit, may be substituted.
- 6.0 P.M.—*Dinner*. Cod, sole, whiting, smelts, turbot, or brill. Mutton, venison, chicken, grouse, partridge, pheasant, tripe, sweetbread, boiled leg of lamb, or roast beef. Stale bread. Cauliflower, asparagus, vegetable marrow, French beans, floury potato, or sea kale. Half a wine-glassful of cognac in a bottle of soda water, or two glassfuls of dry sherry or claret. A few grapes, an orange, a baked apple, or strawberries if desired.
- 9.0 P.M.—A small glass of cold brandy and water and a biscuit, or cup of weak tea with slice of bread and butter, or a small cup of gruel or arrowroot.
- 11.0 P.M.—*Bed*. To sleep on a mattress without much covering. The room to be properly ventilated, and a small fire kept burning if the weather is cold.

Such a dietary as this would probably prove too liberal for a person of sedentary habits. We, of course, were presuming that a fair amount of exercise had been taken, and that something attempted, something done, has earned a night's repose.

This is merely a broad outline of what a dyspeptic should take and what he should avoid, but to this, as to all rules, there are many exceptions. Milk agrees capitally with most people, but with some it induces vomiting, diarrhœa,

and absolute indigestion, and must then be avoided. No one with a grain of sense would take what he knows will upset him, and any one who has been suffering for some time with dyspepsia has a wonderfully correct knowledge of the aliments which best agree with him.

It is important not only to refrain from substances which are indigestible, but also to avoid mixing together in the stomach different substances of various degrees of solubility. Hence there are two reasons why it is salutary to dine off one dish. In the first place you avoid the injurious admixture just adverted to; and as to the second, you escape that desire to eat too large a quantity, which is provoked by new and various flavours.

We have already referred to the importance of allowing the stomach time to perform one task before another is imposed upon it. Abernethy always exhorted his patients to allow five or six hours to elapse between one meal and the next, and there can be no doubt that his advice was as much founded in reason as justified in practice. There are very, very many people who allow a much shorter interval than this between each of the three principal meals of the day, and the effects of such a system are every bit as injurious as those of over-eating. Many delicate people think it is necessary to eat often to keep up their strength, but fail to recognise the fact that when meals are taken frequently they should be small. The injurious effects of eating between the meals cannot be over-estimated. When meat is eaten in tolerable quantities two or three times a day, the addition of milk, eggs, wine, beef-tea, bread and cheese, biscuits, &c., destroys the beneficial effects of all. It should be remembered also that the amount of food required varies with the expenditure of the system, and that a person leading a sedentary, inactive life requires far less food than one who is performing considerable bodily or mental labour.

Attention to general hygienic conditions will do much in the treatment of dyspepsia, although it will seldom effect a cure unless the diet be also regulated. The sufferer from dyspepsia should take plenty of exercise, especially in the open air. Walking and riding often exert a considerable influence in increasing the digestive powers of the stomach, and in the case of those who of necessity lead sedentary lives in large cities, the use of the gymnasium often proves of the greatest service. Exhaustion, however, is most carefully to be avoided, and after active exercise time should be allowed for the body to cool before food is taken. The effects of cold or tepid bathing, and the daily use of the hair glove or flesh-brush, are often very beneficial. Mental distress, mental solicitude, mental toil, and over-much study, are all prolific sources of dyspepsia, and those harassed by care or anxiety, as well as those engaged in absorbing intellectual pursuits, should take their meals in cheerful society. A light heart is a great digester. You will do well to encourage an indolent sense of contentment for some little time after eating, so as not to divert from the stomach the nervous force which is so essential for the due and proper performance of its functions. A change of scene often does a great deal of good, and a run down to Brighton, or Margate, or Folkestone, or Eastbourne, if only for a few days, may be tried with advantage. Six weeks among the mountains of Switzerland, or upon the

rivers of France or Germany, will often do more towards restoring a dyspeptic to health than a twelvemonth's regimen and physicking at home.

There is one apparently trivial, but in reality extremely important, point to which we wish especially to call attention. See that your teeth are in good working order, and if they are not, go to a dentist and get them supplemented or replaced by new ones. If mastication is imperfectly performed, all treatment directed to the stomach will be in vain. In a letter which recently appeared in the *Lancet*, a source of dyspepsia was pointed out, which we believe has been very generally overlooked. The writer says:—

“When I was travelling on the Continent last September I lost two of my front teeth, and afterwards another; besides this, one of my back teeth was so tender that I could not masticate with that side of my mouth. This tooth, on my return to London, my dentist, whom I have employed for twenty years, told me would be of no further use to me, and it was extracted.

“I now determined to go to any expense, that for the remainder of my days my mouth and teeth might be in proper order (the upper jaw only being affected). For a month I gave the gums time to harden, then a cast of the upper part of the mouth was taken, and four days before Christmas, everything being in readiness, the new arrangement was placed *in situ*, a perfect fit, quite comfortable. I felt proud of my appearance, and could bite the hardest substance with every tooth in my head; but to effect this there was a gold plate covering the whole of the *roof of the mouth*. I remonstrated against this, and was told that it was of no consequence, that the tongue was the organ of taste, and that it would not interfere with the process of digestion. Now what happened? I masticated perfectly, the saliva mixed with the food, and then went down my throat as though it had passed through a tin funnel. For a few days I felt no evil consequences; but in about a week or ten days I began to get out of order—griping, &c. First the gastric juice went wrong; then there was one day too great a supply of bile, another day too little, and at last none at all—in fact, congestion of the liver. Knowing that nothing will attack this except blue-pill, although I never take medicine, I went home one Sunday evening at seven with a pure blue-pill, and slept soundly for sixteen hours, and after this a mild aperient. The action of the liver and the bile was restored; but still I had no appetite. I tried to tempt it with a good dinner, but turned away from everything, and I have gone four days and a half without food or drink, except perhaps water.

“Having thirty years ago attended lectures in Edinburgh on Physiology, including the subject of digestion and dietetics, it now suddenly occurred to me that in covering up what my dentist called the roof of my mouth he had, in fact, covered up my palate, and I went to him one day at eleven, and then and there insisted that a large piece should be cut out of the plate, leaving what remained in the form of a horseshoe, with quite as firm a bearing as before, and freedom of contact between the tongue and the palate. Two hours afterwards I enjoyed my lunch, as I have every meal since; and although after such disorganisation time and attention are necessary, yet every meal I now take is adding to the tone of the stomach and system.”

The medicinal treatment of dyspepsia is by no means an easy problem. When

the tongue is red and has a raw appearance, and the general symptoms are those indicative of a certain amount of irritation of the stomach, bismuth, either alone or in combination with hydrocyanic acid, is the appropriate remedy. The ordinary dose of carbonate of bismuth is fifteen grains, but a larger dose, say up to thirty grains, may often be taken with advantage. It should be administered suspended in a little water. We have already given a formula for a mixture containing bismuth (Pr. 18), and three minims of dilute hydrocyanic acid may be added to each dose. Bismuth should always be taken about half an hour before meals; it does little or no good if taken on a full stomach. A dose should be taken every four hours. It is especially indicated when nausea and vomiting are prominent symptoms. Should bismuth not succeed, arsenic (Pr. 40) may be tried. A tea-spoonful of the mixture may be taken four times a day, shortly before meals. It is a valuable remedy, especially when there is an irritable condition of the stomach or intestines.

When the tongue is large and flabby, and the symptoms generally indicate want of tone in the stomach, bitters are employed. Those most commonly used are the infusions of gentian, quassia, calumba, cascarilla, chiretta, and chamomile, and perhaps absinthe and hop. Quinine is not much used in stomach affections, unless loss of appetite is the prominent symptom. Respecting the relative merits of the different infusions, it may be stated that calumba appears to present certain sedative properties, and may often be administered when the others would be too irritating; and that gentian, in addition to its bitter properties, has also the advantage of being a slight laxative. The dose of the different infusions is from two to four table-spoonfuls, and of the corresponding tinctures from one to two tea-spoonfuls. They should be taken about half an hour before meals, the infusions alone, and the tinctures in a wineglassful of water. The infusions very rapidly decompose, especially in hot weather; but the tinctures, being prepared with spirit, will keep for almost any time. If the infusions are used they should be freshly prepared; there can be no greater mistake than using medicines that are not of the best possible quality.

Alkalies, as we have already seen, have a marked power of increasing the secretion of the gastric juice. With this view, bicarbonate of soda is usually given in fifteen-grain doses about half an hour before meals. It is best administered in combination with one of the bitter infusions. We have already given a formula for a gentian and soda mixture (Pr. 14), but cascarilla or calumba, or any other bitter may be substituted for the gentian. Acids given about half an hour after a meal are often a great aid to digestion. Weak hydrochloric acid is usually employed for this purpose, it having been ascertained that the natural acidity of the gastric juice is due to this substance. The acids, like the alkalies, are usually given with some bitter infusion. The acid and gentian mixture (Pr. 15) is a good formula, but the gentian may, if thought desirable, be replaced by one of the other infusions. Acids, if given before meals, lessen the secretion of gastric juice, and should consequently always be given after food unless acidity is the prominent symptom.

Pepsin enjoys a high reputation in the treatment of many forms of dyspepsia. It is the active principle of the gastric juice both in man and many of the lower animals. The pharmacopœial preparation is obtained from the stomach of the pig.

For the benefit of those who may have to prepare it for themselves, we may briefly explain the process, particularly as it presents no difficulty. The stomach of a recently killed pig is cut open and laid on a board, with the inner surface upwards. Any adhering portions of food, dirt, or other impurity are removed, and the exposed surface is slightly washed with cold water. The cleansed mucous membrane is then scraped with a blunt knife, and the viscid pulp so obtained is spread on a piece of glass or glazed earthenware, and quickly dried in the sun or before a fire. In this way a light yellowish-brown powder is obtained, the dose of which is five grains. It should be given after the two chief meals of the day, either alone or at the same time as the acid mixture. It is a very valuable remedy when the functions of the stomach are imperfectly performed, and is especially indicated where pain or other disturbance follows the use of animal food. Many chemists keep pepsin wine and pepsin lozenges, both of which are convenient and agreeable forms of taking the medicine. The preparation sold as rennet wine is prepared as follows:—Take the stomach of a calf as fresh as it can be obtained from the butcher. Slit it up from one end to the other, and then gently wipe the inside with a clean, dry napkin, taking care to remove as little of the clean mucus as possible. Then cut the stomach into small pieces, the smaller the better, and put it all into a common wine bottle. Fill up the bottle with good sound sherry, and let it remain corked for a fortnight, when it will be fit for use. It is to be taken immediately after meals—a tea-spoonful in a wine-glassful of water, to which if necessary from ten to fifteen drops of dilute hydrochloric acid may be added.

When uneasiness rather than pain occurs after a meal, with a sensation of weight at the pit of the stomach, and indisposition for mental or bodily exertion, it may be inferred that the work of digestion is slow and difficult, from too scanty secretion of gastric juice. In these cases it is desirable to employ those drugs which are known to promote the secretions of the stomach, and for this purpose we may administer before meals either the gentian and soda mixture, or a little ipecacuanha wine. The ipecacuanha is especially indicated when the dyspepsia is associated with constipation, and is characterised by depression of spirits, flatulence, coldness of the extremities, and the food lying on the stomach “like a weight.” The wine should be given in a dose of from five to ten drops half an hour before meals. In this form of dyspepsia, the use of salt, mustard, or cayenne pepper as condiments is not objectionable.

In one form of dyspepsia the pain does not begin till from two to four hours after a meal, but continues for several hours. It is frequently accompanied by pain and tenderness on the right side, and is supposed to be due to an excess of acid in the stomach. At all events, it is speedily removed by a small dose of any alkali, such as fifteen or twenty drops of sal volatile in a little water, or a dose of the gentian and soda (Pr. 14) or bismuth (Pr. 18) mixtures. In a closely-allied form, in which pain is experienced when the stomach is empty, and is relieved by taking food, the same mode of treatment may be adopted.

There is another form of dyspepsia in which the movements of the stomach and intestines are over-energetically performed. The food is no sooner swallowed than the stomach, instead of digesting it, passes it on into the intestines, where, owing to

its crude condition, it acts as an irritant, and sets up diarrhœa. Patients suffering from this disorder have a constant feeling of emptiness in the stomach; this is relieved by food, but no sooner is the meal finished than it returns, and they feel hungry again. There is in this disorder always an evacuation of half-digested food immediately after a meal, and sometimes even before it is finished. This complaint is very common in children from six to twelve years of age. It can nearly always be cured by giving from two to five drops of laudanum in a little water a few minutes before each meal. This small quantity of opium received into the stomach before digestion has commenced is sufficient to quiet and regulate its muscular movements, upon the inordinate extent of which the symptoms are dependent. If a larger dose be given, it not only arrests the muscular movements, but also the secretion of the gastric juice, and so increases instead of calming the disturbed state of the digestive organs. Trousseau attached so much importance to the small dose that he always commenced with a single drop of laudanum, augmenting it if necessary. Should the laudanum fail, a tea-spoonful of the arsenic mixture (Pr. 40) may be taken immediately preceding each meal. Belladonna, too, is undoubtedly useful in this form of dyspepsia, although its beneficial effect is less marked than that of opium. As in the case of opium, it is essential that it should be given in small doses—three drops of the tincture of belladonna just before the commencement of each meal. Many people, especially those advanced in life, suffer from a sensation of sinking or craving at the pit of the stomach. This may depend on want of tone in the stomach or on the general condition of health. If the intestines are not in an irritable condition, cod-liver oil may be given with advantage—say a tea-spoonful three times a day.

In the so-called irritative dyspepsia, where the tongue is furred and covered with scattered red points, a tea-spoonful of the arsenic mixture (Pr. 40) taken shortly before food acts like a charm. This mode of treatment often cures pain after food, vomiting, and other dyspeptic symptoms. It is a valuable remedy.

Dyspepsia is often complicated with constipation, and little benefit would be obtained from treatment until this is removed. In remedying constipation in these cases much care is required to avoid irritation, and only the gentlest and least irritating laxatives are admissible. When possible even these should be dispensed with, and the action of the bowels, when not occurring spontaneously, should be daily solicited by an enema of cold water. Friction over the stomach, the wet compress worn at night, protected by a piece of mackintosh, or the use of the cold douche to the abdomen, will often prove useful adjuncts. When medicines are given, rhubarb and aloes are to be preferred to others. The dinner pills (Pr. 65) not only act on the bowels, but considerably increase the digestive powers. Recourse should be had as little as possible to purgative remedies, for it may afterwards become difficult to dispense with their assistance, and their habitual use tends further to exhaust the muscular and nervous power of the stomach and intestines.

Nux vomica is a drug which is frequently used in the treatment of dyspepsia, caused by taking indigestible food. It is indicated when the symptoms are pain-

tenderness, and fulness of the stomach after meals, heartburn, sour acid rising, flatulence, frequent vomiting of food and bile, a sour or bitter taste in the mouth, and morning headache accompanied by a feeling of disinclination for exertion. It is also useful in the case of people of a sallow, yellowish complexion, who, in addition to the above symptoms, suffer from irregular action of the bowels with ineffectual urging. This, it will be seen, is just the dyspepsia of men of business and intellectual workers, who perform their tasks with hurry and worry, and give neither brain nor stomach fair play. *Nux vomica* is said to be especially indicated in persons of a dark bilious complexion, who in addition to employing their brains too much, take but little out-door exercise, eat largely, and drink freely of alcoholic liquors. The *nux vomica* mixture (Pr. 44) may be advantageously employed.

Pulsatilla (Pr. 43) is the remedy for indigestion arising from fatty food or pastry, and accompanied by heartburn and frequent loose evacuations. It is indicated in the case of females suffering from deranged periods, particularly when the tongue is coated with a white rough fur, and when there is nausea with little vomiting and absence of much pain.

The Turkish bath is the best remedy for people who, after dining out, suffer the next day from malaise and slight indigestion. In the case of gouty subjects, it is advantageous to combine *colchicum* with any anti-dyspeptic remedy.

So much then for the medicinal treatment of dyspepsia. We have an almost unlimited faith in the curative action of medicines, but on the principle of *audi alteram partem*, we give the advice of a physician, evidently no believer in drugs, to a long-suffering dyspeptic. It is as follows:—"1. Take a good stock of the usual medicines for stomach disorders, and go down to Southampton. 2. Go on board the first Peninsular and Oriental steamer for Gibraltar, with return ticket. 3. Throw all the medicines overboard. 4. Live like other people as soon as you have got your sea-legs, and smoke when you can." He adds that in an ordinary case he would almost guarantee a cure, and that "No. 3 is to be especially attended to."

Many of the more prominent symptoms of dyspepsia, such as vomiting, pyrosis, and flatulence, are of such importance that their treatment necessitates a separate and detailed account.

INFLUENZA.

Influenza is an epidemic disorder attended with great depression, chilliness, running from the eyes and nose, headache, cough, restlessness, and fever. It was called influenza by the Italians, because it was attributed to the "influence" of the stars. In France it is known as the "grippe." It has received various other names, for it has been known and noticed from the remotest antiquity. Thus we learn that in 827 A.D., an attack of cough spread like a plague over the whole of Europe, and some forty or fifty years later, the army of Charlemagne, returning from Italy, suffered most severely from the same complaint. During the present century some ten or a dozen epidemics have been recorded, the most noteworthy being those of 1803, 1831, 1833, 1837, and 1847. It was formerly supposed that an outbreak occurred regularly once in a hundred years, but during the seventeenth century there

were twelve distinct epidemics, from which we may conclude that the intervals are in reality much shorter.

Oceasionally the disease is limited to a comparatively small area, but more frequently it invades a large portion of the earth's surface. In some instances so great has been its prevalence that almost all parts of the world have been attacked. Its onset is in many cases remarkably sudden; thus in the year 1837 it seized upon all parts of the metropolis within the space of a very few days. It has been observed to occur also at the same time on land and on board different vessels which have had no communication either with the shore or with each other. Often enough it breaks out simultaneously in many different places, but sometimes its progress from country to country is comparatively slow. Thus it has spread over the whole of Europe in six weeks, but it may take six months to do so. In any particular country its progress may also be slow; thus between the invasion of London and of provincial towns, or of Scotland, weeks, or even months, may elapse.

A curious circumstance in the history of these epidemics is that they appear to travel or migrate from place to place, and this they do in spite of adverse winds and variations in temperature. In spreading over a large tract of country, influenza has been observed to follow a regular course, usually from north or north-east to the south and west. It has been known to pass from Chinese Tartary to Russia, Germany, Holland, England, Scotland, France, and then to Italy and the Mediterranean, or to America, in rapid succession. In its course it appears to pass over seas, and has, as we have said, been known to attack ships in mid-ocean.

When it enters a large town it usually remains there from six weeks to two months, but sometimes its stay is more protracted, as at Paris in 1831, where it was prevalent more or less for nine or ten months. Ultimately, however, it always disappears, and in the intervals of the attacks isolated or sporadic cases never occur. Where it comes from originally no one can tell. Some people think it always exists at some one spot and spreads from there, whilst others maintain that under favourable conditions, whatever those might be, it may originate anywhere. Usually, each nation attributes to its neighbour from whom it derived the disease the unenviable honour of having originated it. Thus, the Italians have called it the German disease; the Germans, the Russian pest; the Russians, the Chinese catarrh, and so on; these names affording, as will be seen, some indication of its usual tract.

In passing through a country it does not attack all parts of it; most commonly it spares the villages and small towns, but sometimes even large towns escape. It is generally met with in cities before appearing in the towns and villages around. In large cities an outbreak is usually made up of a number of localised attacks, certain streets or districts being more frequently affected than others. The number of people seized during an epidemic is usually very great. In London, in 1847, it has been calculated that at least 250,000 persons suffered, in Paris between one-fourth and one-half of the population, and in Geneva about a third.

Influenza prevails on every soil and geological formation, and there is no evidence to show that it is in any way connected with volcanic disturbances, as was at one time asserted. It is not, as far as we know, in any way influenced by

electrical or magnetic conditions of the atmosphere. A favourite theory years ago was that it was caused by an excessive accumulation of electricity in the animal economy. It occurs at all times of the year, and not especially at any particular season. It is not dependent on cold or sudden variation in temperature, and it is a mistake to suppose that such is the case. It is uninfluenced, too, by moisture, for it is met with in the dry air of Upper Egypt, in the moist air of sea-coasts, and even on the sea itself.

It has been suggested that influenza might depend on the presence in the atmosphere of an excessive quantity of *ozone*. Pure or atmospheric oxygen when exposed to the action of electrical sparks is transformed into an odouriferous matter called ozone, which is supposed to be merely a modified form of oxygen. Most persons who have stood near an electrical battery at the time of its discharge must have noticed a peculiar smell, and it is said the same odour pervades the air during the prevalence of thunderstorms. It is asserted that the inhalation of strongly ozonised air produces a painful affection of the chest—a sort of asthma, accompanied with violent cough, and from this it has been argued that ozone must be the cause of influenza. The conclusion is certainly not justified by the premises, and the fact that the disorder may prevail in a city or town, while a village a mile or two off remains untouched, tells heavily against this theory.

In some cases a thick and acrid fog has shortly preceded or has immediately ushered in the influenza. We are told that the gripe of the spring of 1733 appeared in France immediately after offensive fogs, “more dense than the darkness of Egypt.” So also in 1775 it is recorded that the disease was ushered in by “thick noisome fogs.” In the same year it visited the shire of Galloway, in Scotland, where “a continual dark fog and particularly smoky smell prevailed in the atmosphere for five weeks, the sun being seldom seen.” It is recorded, too, that in 1782 “the sun was for many weeks obscured by a dry fog, and appeared red, as through a common mist.” In 1837 “a dark fog brooded over the metropolis” during the prevalence of the distemper. It has been observed, too, that during the prevalence of these epidemic catarrhs various species of brutes and of birds have been extensively affected with sickness, while on some occasions prodigious swarms of insects have made their appearance. These statements are worth recording, but too much importance must not be attached to them, for they may be mere coincidences.

The main spread of influenza is not influenced by the wind, it does not move with the same velocity, and it often moves against it. Yet it is probable that in some cases the direction of the wind may have some share in its propagation. Thus we are told that on April the 3rd, 1833, the *Stag* frigate was coming up the Channel, and arrived at two o'clock off Berry Head, on the Devonshire coast, all on board being at that time well. Half an hour afterwards, the breeze being easterly, and blowing off the land, forty men were down with the influenza; by six o'clock the number was increased to sixty, and by two o'clock the next day to 160. On that evening a regiment on duty at Portsmouth had a clean bill of health, but on the following morning so many of the soldiers were affected by the influenza, that the garrison duty could not be performed.

It is no easy matter to decide whether influenza is infectious or not. The

rapidity of its spread would seem to negative the idea of there being any connection between human intercourse and the propagation of the disease. We are told that at St. Petersburg, in 1782, 40,000 people were attacked with influenza in a single night, and this clearly could not have been by contagion. Moreover, the epidemics do not seem to follow the great lines of commerce. On the other hand, when it has entered a town in which investigations can be carried on, it has frequently been proved that the first cases have been introduced, and that the townspeople nearest the invalids have been the first to suffer. So also when it breaks out in a house, it often attacks one person after another. In some instances isolation or seclusion of a community, as in prisons, has given immunity ; or, at all events, the inmates have not been attacked. All contagious diseases have a remarkable property, and that is, that after the entrance of the poison into the system, there is a period of incubation or latency during which it lies dormant and produces no symptoms, or, at all events, none of which we are cognisant. This incubative period is supposed not to exist in the case of influenza, which strikes down persons in perfect health almost like a stroke of lightning. In some cases, however, a period of incubation may possibly have existed, but even then it is undoubtedly very short. Whether influenza affords immunity from future attacks is another point on which there is some discrepancy of opinion. Although persons seldom suffer twice during the same outbreak, it is probable that they are not protected against a subsequent epidemic.

Influenza occurs both in men and in women, and with about equal frequency. It attacks people of all ages ; but young children, it is said, are less affected by it than old. Domestic animals—dogs, cats, &c.—often suffer in the same way. In 1827 there was an epidemic of influenza amongst horses, which spread over almost the whole of Europe. At that time influenza prevailed among men in North America, Mexico, and Siberia, but not in Europe. Persons in over-crowded dwellings usually suffer more than those who are more favourably situated as regards sanitary conditions. In several instances large schools and barracks have been first attacked, the disease raging there for some days before breaking out in the town around. People living in low, damp, ill-ventilated places are more likely to suffer than others.

The symptoms of influenza are somewhat as follows :—The patient feels chilly, or perhaps shivers ; presently headache occurs, with a sense of tightness across the forehead ; the eyes become tender and watery ; and sneezing and a copious acrid discharge from the nose ensue, followed or accompanied by heat and uneasiness about the throat, hoarseness, a troublesome cough, a sense of constriction in the chest, and oppression of breathing. In fact, the symptoms are those of a very bad cold, to which are added a sudden early and extraordinary subdual of the strength, and most commonly great depression of spirits. The debility which comes on at the very onset of the complaint is one of its most striking phenomena, occurring as it does almost instantly, and being apparently so much greater than would have been anticipated from the symptoms it ushers in. Indeed, this rapid and remarkable prostration is more essentially a part of the disorder than the catarrhal affection, which is sometimes, though rarely, absent or imperceptible. Not unfrequently there are disturbances of the digestive organs ; the tongue is white and creamy, appetite

and taste are completely lost : nausea and vomiting are not uncommon, and there may be diarrhœa. The skin, at first hot and dry, soon becomes moist, and sometimes exhales a peculiar musty odour. In some epidemics, profuse perspiration has been a prominent symptom. The patient complains also of pains in the limbs and back, and of much soreness and tenderness in various parts of the body. In a simple, uncomplicated case, the disease runs its course in three or four days, and the patient is convalescent before the end of the week. Cough and much debility are apt to last longer than the other symptoms, and till the patient gets rid of these the complaint is easily renewed. The most frequent complications are bronchitis, inflammation of the lungs, and rheumatism. Respecting the course of the temperature, we know little or nothing : it is a subject for observation in future epidemics. In some cases delirium is a prominent symptom, and is to be regarded as an unfavourable sign. The cough is usually very severe, and has been known to produce rupture, and to give rise to abortion in pregnant women. The cough, at first dry, is soon attended with thick, stringy expectoration, often tinged with blood.

Influenza cannot be regarded as a very serious disease, although the mortality varies greatly in different epidemics. In 1837 the death-rate was only about two per cent., and this was universally acknowledged to be an unusually severe outbreak. Although the relative number of deaths to those attacked was so small, the absolute mortality was enormous ; and it was calculated that in that year more people died of influenza than died of the cholera which had raged a few years previously. In fact, funerals were for a time so numerous, that the resources of the undertakers were stretched to their utmost. One firm alone had seventy-five bodes waiting for interment, and mourning coaches and black horses could not be procured in sufficient numbers to meet the demand. It will be seen that the danger of influenza to the community is great, whilst to the individual attacked it is comparatively small. Death claims a certain number, but has, so to speak, a very large choice of victims. In cholera it sometimes happens that half the patients die, but then the number attacked is comparatively small.

True influenza is met with solely as an epidemic attacking large numbers of people, and spreading rapidly over the whole of the globe. If we bear this in mind there will be no danger of our confounding it with those local catarrhal affections that occur in all temperate climates almost annually. One thing is certain with respect to influenza, and that is that it does not arise from exposure to cold, or, as we say, from "catching cold." This has been observed in many epidemics.

The very young and the very old bear influenza badly, especially the latter. A writer during the prevalence of the epidemic of 1837 says : "The daily newspaper obituaries have been unusually long, and the ages of the persons whose deaths they announce are in almost all cases great." Frequent delirium, convulsions, and fainting are bad symptoms ; whilst as favourable signs may be mentioned copious warm sweats, free expectoration, spontaneous diarrhœa, and a copious red deposit from the urine. People with pre-existing lung disease often bear influenza very badly. Curiously enough, it seldom attacks those labouring under acute diseases until the period of convalescence arrives, when their immunity apparently ceases, and they become just as liable to its invasion as others. Thus it has often happened that a

patient labouring under typhus or typhoid has escaped as long as the fever continued, but on the very day convalescence commenced the symptoms of influenza appeared. This is a very unfortunate circumstance, for just as a poor fellow has struggled through an illness of three or four weeks' duration, he is attacked with a new and dangerous malady, which again places him in a situation of imminent danger.

We know of no means by which influenza can be prevented. Unfavourable hygienic conditions, and especially over-crowding, heighten its prevalence and severity, but persons in the most favourable circumstances may be attacked. It has been thought that those in well-warmed and yet ventilated houses escape best, but this is very doubtful. In one of the last epidemics it was said that persons who took the best care of themselves, who always went warmly clothed and were never exposed to the inclemency of the weather, contracted the disease just as readily as the half-clad labourer who had to undergo daily exposure to the vicissitudes of our changeful climate.

We now come to the treatment of the disease when it has actually declared itself. It is of great importance to have the room cool and properly ventilated. In a common cold the patient is best in bed and in a warm room; but in influenza, if the patient is not too ill, it is better to get him out of bed after the third day, and place him on a sofa. Draughts and chills must be avoided on account of the risk of inflammation of the lungs. As there is usually complete loss of appetite, it is a difficult matter to get him to take much nourishment. Solid food may have to be abstained from in bad cases for two or three days. Should beef-tea be given, it should not be very hot, as it is apt to increase the headache and languor. Plenty of milk should be given, alone or mixed with soda water, as may be most palatable to the patient. Cold drinks, orange and lemon juice, cream of tartar water, raspberry vinegar, weak citrate of potash, citric acid and water flavoured with sugar, barley-water with lemon-juice, infusion of mallows, and so on, should be given *ad libitum*, and when there is much fever they should be iced. Weak cold white wine whey often proves grateful. In the way of stimulants, claret or hock, with seltzer water, is useful; but in the case of old people suffering greatly from debility, it is usually necessary to give port wine or brandy. As soon as the fever begins to subside, the patient should be encouraged to take solid food, although at first there may be little or no appetite. The air of the sick-room should be kept moist by means of the steam of a kettle placed on the hob, or by putting boiling water into flat, shallow vessels. The inhalation of hot steam several times a day from a suitable inhaler may prove useful, and the addition of ten or twenty drops of chloroform to the water may subdue the violence of the cough.

Bleeding in influenza always proves injurious, and the high mortality in some epidemics is believed to have been due to the adoption of this mode of treatment. Active purgation is to be avoided, but in many cases it is a good plan to begin treatment by the administration of a three-grain calomel pill at bed-time (Pr. 61), followed by a draught in the morning (Pr. 25). The calomel generally brings away copious dark-coloured motions, after which the patient is much better in spirits, and the fever abates. In the case of children a dose of grey powder may be substituted

for the calomel, or what is even better, an injection of warm water containing a little castor oil may be administered. In simple cases very little medicine is needed, but nitrate of potash (saltpetre) is often given. It should be largely diluted with water, and flavoured with sugar and lemon-juice, so as to be taken as a drink. From one to two drachms of nitre may be administered in the course of the twenty-four hours. When cough is a prominent symptom, linseed-meal poultices should be applied to the chest, back and front, and should be changed every three or four hours, night and day, and oftener if necessary. An occasional mustard poultice, or the application of a mustard-leaf for a few minutes over different parts of the chest, so as just to redden the skin, may do good. Benefit might be derived from painting the chest or back with iodine liniment, taking care not to apply too much. Blisters, as a rule, do no good, and only add to the patient's sufferings. Immediately the acute symptoms are subsiding, quinine (Pr. 9) should be given. In some instances aconite (Pr. 38) and gelseminum (Pr. 41) have been tried, and when administered quite at the commencement of the disease, they may be expected to do good. Cases are recorded where arsenic (Pr. 40) was given throughout with marked benefit. During convalescence iron and quinine (Pr. 11) should be administered, and a very nutritious diet, with beer and wine, must be employed. Milk in large quantities is useful, milk and seltzer water being a favourite remedy in Germany. In all cases of influenza the attendance of a medical man is necessary, and the sooner he is summoned the better.

ITCHING AT THE ANUS.

This is a far more prevalent complaint than is usually supposed. The fact is, the sufferer, from motives of delicacy, seldom mentions its existence, even to his most intimate friend, and often refrains from seeking medical advice from the same reason. This is to be regretted, for there never need be the slightest hesitation in consulting a doctor about any bodily ailment. It may seem a disagreeable matter to have to mention it to anybody, but it must be done, and you will soon find the doctor thinks nothing of it, and takes it quite as a matter of course.

This painful itching about the back passage is a most distressing malady, and many people's lives are rendered almost unendurable by it. The irritation is, in the majority of cases, worse at night, especially when the patient gets warm in bed. The greater part of the night is rendered sleepless and inexpressibly wretched. Towards morning, irritable and worn out, the unfortunate sufferer falls off into a fitful slumber, from which he often awakens by involuntarily scratching himself. This, of course, makes the part more or less raw, and materially increases the discomfort during the day-time. The more the patient scratches, the worse he gets, although it is very difficult to help seeking the temporary relief it affords. Many people say they would infinitely prefer decided pain to the dreadful and constant itching they have to endure. Nervous, excitable people are often greatly troubled in the day as well as at night, the itching setting in badly after exercise, or on leaving the cold air and coming into a warm room. These unfortunates are practically excluded from society.

In many cases, on examining the part, there is nothing to be seen, but sometimes the skin is thick and rough from the scratching, and sometimes a little eruption may be observed in the neighbourhood.

The disorder is met with both in men and women, but it is not of frequent occurrence in young people. In some cases it seems to be a kind of neuralgia, but it is often caused by the irritation of piles, by worms, by confined bowels, and in women by arrest of the periods. It sometimes occurs during the later months of pregnancy. It is frequently induced, or at all events kept up, by habits of too free eating and drinking, although it is occasionally met with in persons who are strictly abstemious. It is sometimes induced, too, by particular articles of food; one man gets an attack after eating lobster or crab, another from indulging in salmon, whilst a third suffers only after drinking champagne or ale. Excessive smoking may act as an exciting cause in those who have a tendency to it.

It must be remembered that itching of the anus is a very intractable complaint, and if you want to be cured you will have to practise a certain amount of self-restraint and self-denial. You will have to follow strictly, patiently, and persistently, the rules laid down for your guidance, for if you do not you most assuredly will get no better. You are a stout, full-blooded, well-to-do, middle-aged gentleman, rather fond of the good things of this life than otherwise. Well, we shall have to cut down your diet. You must give up all rich and highly-seasoned dishes, you must eat but little meat, and live chiefly on fish, poultry, vegetables, and fresh ripe fruit. It is no good saying you will not, for if you want to get better you must. You must knock off your beer and your port and your spirits, and confine your attention to light sherry and claret. You may take Vichy or soda or seltzer water as much as you like. You will have to give up coffee and take tea or cocoa for breakfast. You should take a good long walk every day, and try and get yourself into a slight perspiration. If you are not accustomed to much walking you had better begin with half a mile and gradually increase it, in the course of a week or ten days, to three or four miles, only be careful not to over-do it. You should take a cold sponge-bath every morning, and a warm or Turkish bath once a week. At bed-time well wash the parts with warm water and yellow soap.

Now as to medicine, get this mixture made up, and take two table-spoonfuls of it two or three times a day:—Sulphate of magnesia, an ounce; carbonate of magnesia, forty grains; colchicum wine, forty minims; syrup of senna, an ounce; compound tincture of cardamoms, half an ounce; infusion of cherata to make it up to eight ounces. Then take one of these pills every other night:—Plummer's pill, two grains; compound rhubarb pill, three grains. Mix, to make a pill.

After the washing at night, apply calomel ointment freely. This is an officinal preparation, and you can get it from any chemist. You will have to persist in this treatment for some time, and if you do you will probably be amply rewarded.

When itching of the anus occurs in young men or women, a different mode of constitutional treatment will have to be adopted. When there is much debility, cod-liver oil may be given internally, in addition to the use of the local applications. When there is anæmia, the different preparations of iron will have to be used as recommended when speaking of that complaint. In excitable nervous people, in whom an attack

is induced by mental anxiety, over-work, or worry, bromide of potassium is the appropriate remedy (Pr. 31). Ten or fifteen grains of chloral may be added to the nightly dose, and this will usually ensure a good night's rest. In alternation with the chloral, advantage often results from taking from one to two drachms of conium juice three times a day. This is the full dose, and must not be exceeded. In addition to this, phosphorus (Pr. 53 or 54) or cod-liver oil taken after meals may do good by restoring the shattered nerve-force. Not unfrequently in young people this malady is a kind of neuralgia, and then anti-neuralgic remedies will have to be resorted to. A course of quinine (Pr. 11 or 9) or arsenic (Pr. 40) or phosphorus (Pr. 53, 54, or 55) may be expected to prove useful. You should never forget to look out for worms, and if they are present you will have to get rid of them by appropriate remedies. (*See WORMS.*) When the itching seems to be due to piles, they will have to be treated. (*See PILES.*) You must always remember that the itching is not a purely local complaint, but a part of a general constitutional malady. At the same time, you will not neglect local applications, but will resort to both internal and external treatment.

There are many applications which may be used besides the calomel ointment, and when one fails you will have to try another. Only do not be in too great a hurry to change; give one a fair trial before you go on to the next. The following is a very good formula:—Carbonate of soda, two drachms; hydrochlorate of morphia, sixteen grains; dilute hydrocyanic acid, half an ounce; glycerine, two ounces; water to make it up to eight ounces. Make a lotion. Dab the part frequently. You must remember that this is a POISON, so that it should be distinctly labelled as such, and should not be left about.

A chloroform pomade sometimes acts admirably. It is made as follows:—chloroform, two drachms; glycerine, half an ounce; lard, an ounce and a half. This to be used frequently. If you do not like the smell of it, tell the chemist to scent it with roses or elder-flowers.

These are all very good applications, but we have by no means exhausted our list. A very useful lotion is one consisting of one part of carbolic acid to a hundred parts of water. Sometimes the skin becomes so red and irritable from the constant scratching that even a weak lotion such as this causes considerable burning and smarting. It is by no means a bad plan to make a small plug of lint, or out of an old handkerchief, soak it in this lotion, and push it up the passage, leaving a part outside to act as a pad. When there is any suspicion that the itching might possibly depend on some parasite such as the itch or lice, sulphur ointment should be freely applied. In obstinate old-standing cases it is a good plan to commence treatment by rubbing the parts thoroughly with a solution of nitrate of silver of the strength of two drachms to the ounce. It usually softens the skin and allays the itching. Condy's fluid, undiluted, is very useful for the same purpose, and should be applied two or three times a week. A case is said to have been treated most satisfactorily after all remedies had failed by a lotion composed of one part of liquor carbonis detergens to three of water applied freely. Some very obstinate cases had been cured by washing the affected part at bed-time with a saturated solution of borax in water.

However bad the itching may be you should avoid taking laudanum or opium in any form. You may possibly get a night's rest, but you pay for it in the long-run, and are almost sure to be worse the next day. When the irritation is so very great that the patient is almost worn out by want of sleep, a mechanical mode of treatment may be resorted to. Get a plug of bone made shaped like the nipple of an infant's feeding bottle, and furnished with a circular shield to prevent it from slipping into the bowel; the nipple should be about an inch and a half in length, and as thick as the end of the forefinger. This is introduced into the back passage at bed-time, and retained all night. It is most efficient in preventing the nocturnal itching, and a good night's rest is almost sure to result from its use. It is recommended, however, that it should be worn only every other night. The idea of this plug was first suggested by noticing the fact that many patients can obtain relief and sleep, when the itching is very bad, only by introducing the end of the forefinger into the bowel and making pressure.

Itching occurring about the front passage in women is usually successfully treated by one of the applications we have mentioned above. The calomel ointment is especially useful, but in obstinate cases it may be necessary to resort to the employment of leeches or blisters to the inner side of the thighs. A strong solution of alum applied several times a day often succeeds when other things have failed. It must not be forgotten that this complaint may depend on irritation of the womb, and the treatment may have to be directed to this organ.

JAUNDICE.

Jaundice occurs as a symptom in the course of many diseases of the liver. It may depend upon various, and very different morbid conditions, the nature of which in any given case is often involved in obscurity.

The word jaundice is derived from the French, *jaune*, yellow. Its technical appellation is *icterus*, the Greek name for a bird with a yellow plumage, the Galbula, or golden thrush, the sight whereof by a jaundiced person was said to be death to the bird, but recovery to the patient. The Latins called it *morbus arquatus*, from its exhibiting some of the bright hues of the rainbow, and *aurigo*, from its resembling gold. Even now-a-days we speak of a person being as yellow as a guinea.

There is never any difficulty in recognising the presence of jaundice, at all events, when well marked. You have only to look at your patient in daylight to see what is the matter with him. By candle or gaslight the yellowness of the skin is readily overlooked, and often cannot be detected at all. The symptoms constituting jaundice may be said to be yellowness of the skin and of the eyes, whitish or drab-coloured motions, and urine having the colour of saffron, and communicating a bright yellow tinge to white linen. There are other symptoms to which we shall have occasion to refer presently. The characteristic yellow complexion of jaundice is owing to the presence of bile in the blood. The deep tint of the urine is evidently derived from the same source. The paleness of the motions is ascribed to the absence of the bile which always exists in natural and healthy excrement.

If there is any doubt as to whether the patient is really jaundiced, or only

yellowish from sallowness, you have only to look at the whites of the eyes and the urine, both of which betray the yellow tint of jaundice very early and conclusively. The greenish-yellow colour of countenance observed in that form of anæmia called chlorosis (*see* ANÆMIA) might, on a superficial examination, be mistaken for jaundice. The slightest attention would serve to rectify the error, for in that complaint the whites of the eyes are even whiter than natural, and the urine is normal in appearance. In cancer, and other wasting diseases, the skin often assumes a greenish-yellow, or lemon-coloured, waxen appearance; but here again the whites of the eyes have the proper colour. A dusky yellowish tint of the surface is not unfrequently seen in persons who have suffered much from ague; and sometimes also in those whose systems have been poisoned with lead; but this need never be confounded with jaundice. Jaundice has been successfully feigned by soldiers and sailors desirous of obtaining their discharge. The yellow colour of the skin has often been simulated by painting it with infusions of saffron, turmeric, rhubarb, broom-tops, or soot; whilst the colour of the urine has been heightened by taking rhubarb or santoline. The point that puzzles these gentlemen is that they cannot make their eyes yellow—they remain persistently white. Moreover, they cannot stand being washed; a little soap and water, or better still, a weak solution of chloride of lime in water, at once cures their jaundice and reveals the imposition.

The colour of the skin in jaundice varies in different people. The young, and those who are pale and fair, present a bright lemon colour. In those who are florid, or whose cheeks and skin are flushed with fever, the tint will more resemble that of a Seville orange. If the patient be naturally swarthy, or if his visage be livid or dusky through imperfect action of the heart and lungs, the super-addition of jaundice will give him a greenish, or olive hue. In old age the colour is usually less livid. Sometimes, in very bad cases of jaundice, the face becomes quite dark in colour, constituting green or black jaundice. Even in the same person the intensity of the colour may vary from day to day, according to the diet, the amount of bile secreted by the liver, and the activity of the bowels and kidneys. The colour of jaundice often remains in the skin for some time after the cause has been removed, and it is important to know this with reference to treatment. It is useless in such a case to continue the administration of medicines which act on the liver, but the departure of the colour may be expedited by warm baths, and drugs acting on the bowels and skin.

Often enough in jaundice the perspiration is coloured by the bile, so that it stains linen yellow. Sometimes the saliva and tears have been found to be similarly affected. Sometimes the milk is tinged, whilst at others it is not. In one case, a woman with deep jaundice suckled her baby for six weeks without imparting to it a yellow colour, or affecting its health in any way.

Derangement of digestion is nearly always associated with jaundice. It generally takes the form of flatulence, or wind, and constipation. In jaundice the bowels are nearly always most obstinately confined. Naturally the bile acts as a kind of stimulus to the intestines, and when it is not secreted in the proper way, there is nothing to make them act. People in jaundice often suffer greatly from the hardness of the motions. They strain and strain, and yet are unable to pass anything. This difficulty may be the starting point of piles.

Itching of the skin, without the occurrence of any eruption, is sometimes a very obstinate and annoying symptom in jaundice. It may be so intolerable as to drive the sufferer almost crazy.

It is an old notion that to the jaundiced eye all things appear yellow. By many this is regarded as a mere poetical fiction, but certainly it is sometimes, though very rarely, a fact. Curiously enough, in one case everything appeared yellow when looked at with one eye, but not with the other.

Jaundice usually induces a condition of general debility and exhaustion, associated with mental depression and irritability of temper. The temperature of the body, provided there be no concurrent cause of fever, is usually slightly below the normal standard. The pulse is often reduced to 50, 40, or even 20 beats in the minute. This slowness of the pulse is particularly noticeable when the patient is lying down; when he stands up the circulation is quickened.

Jaundice, as we have seen, may depend on a great number of different causes. One of the commonest is obstruction of the bile-duct—the duct leading from the liver to the intestine—by a gall-stone. Sometimes the bile itself gets so thick that it blocks up this duct. The bile may even become quite hard, and may ultimately be passed in the shape of a black, gritty powder—very like powdered cinders or coal-dust. Sometimes, curiously enough, a round-worm crawls from the bowel into the duct, and causes the mischief. It would seem at first sight that such cases must be very exceptional, but they are not so in reality. Worms appear to have a passion for wriggling into any little hole they may find about, and the mouth of the duct affords them a good opportunity of displaying this proclivity. Sometimes the lining membrane of the duct gets inflamed and swollen, and, by obstructing it, gives rise to jaundice. In certain cases the complaint may arise from organic disease, such as cancer of the liver or one of the adjacent organs. Fits of anger, of fear, or of alarm have been followed by jaundice, and it has also been produced by great bodily suffering, by a severe surgical operation, or perhaps by the dread which attended it. An instance is recorded in which an unmarried woman, on its being accidentally disclosed that she had had a child, became in a very short time quite yellow. We remember the case of a medical student who had an attack of intense jaundice which could be traced to nothing else than the excitement and worry of an examination at which he was a candidate. It is said that cases coming on thus suddenly are more serious than when the jaundice arises from a more ordinary cause, and that they sometimes prove fatal.

It has been noticed that jaundice occurs most frequently in hot weather, and it is probable that a high atmospheric temperature, long continued, exerts some influence in producing certain forms of this disorder. Jaundice occasionally comes on during pregnancy, and disappears after childbirth. The pressure of the womb may thrust other organs—a loaded intestine, for instance—against the liver, and so impede the passage of the bile. The little exercise that pregnant women take, and the costiveness that frequently attends their condition, is probably not without its influence.

Children, a few days after birth, frequently become jaundiced. It is seldom attended with any disturbance of the health, and usually passes off in a few days.

It has been supposed that this is in reality not true jaundice. The surface of an infant at birth is often enough of a deep red colour, presenting a condition which falls little short of a mild but universal bruise. By degrees the redness fades, as bruises fade, through shades of yellow into the genuine flesh colour. It need never occasion any alarm or anxiety.

How long does jaundice last? It is impossible to answer the question very definitely, as the time is so variable. It may last but only a day or two, or a month or more. In the majority of cases it is all over in a fortnight.

There is rarely any danger in jaundice. The result is nearly always favourable, except when it depends on some structural disease of the liver, or supervenes suddenly on some great mental or bodily shock. In both cases there are grounds for alarm. Intense yellowness of the skin and eyes is often more hopeful than a fainter tinge of yellow. The prognosis is not good in old people, when the constitution is impaired, and there is no obvious cause for the disease, and particularly when the colour of the skin is greenish or approaching to black.

We will now consider the treatment of jaundice. Theoretically, all treatment should be directed to the cause of the jaundice, but as practically we are often unable to find out what that is, we must be content to prescribe for the most prominent symptoms. As a rule we manage to get our patient well without much trouble.

In the first place, the diet must be restricted. There is probably complete loss of appetite, and possibly persistent vomiting. It would obviously be impolitic to load the stomach with food, which would be rejected, or would set up irritation. One of the best articles of diet in these cases is milk, and when there is much sickness or nausea, nothing else should be taken. Some people like it alone, but as a rule it is better to mix it with soda water. Half fill a soda water tumbler with milk, in which a few pieces of ice are floating, and then fill up with the soda water. Of course a considerable quantity of milk will have to be taken in the course of the day, and it should be taken at regular intervals, say every two or three hours, so as to constitute meals. Many people want brandy in the milk, but they are better without it. Lemonade cannot be substituted for the soda water, as it curdles the milk. When there is no sickness there is no objection to a few biscuits with the milk. Two or three sponge cakes with a tumbler or two of milk and soda water form by no means a bad meal, as we can testify. In some cases a rice or sago pudding may be allowed, but if there is any vomiting it is better to do without it. When even the milk and soda water is not retained, milk and lime water may be tried, one part of lime water to four of milk. If these are rejected, it must be given in very small quantities, commencing with a table-spoonful at a time, and gradually increasing the dose. As a rule in jaundice vomiting is not very troublesome, and if the diet is confined to the milk and soda water no difficulty will usually be experienced.

As jaundice nearly always depends on some form of liver disorder it is advisable to apply friction over the region of that organ. The hand should be used for the purpose, and not a towel or bath-glove, or anything of that kind. It is as well to employ some simple liniment to rub in, such as opodeldoc, although it is the rubbing that does the good. You will find it impossible to do it yourself, for the part should be steadily rubbed, with short intervals of rest for a quarter of an hour, night

and morning. In the case of a man living in rooms it is often difficult to get any one to do it, although of course when a man is married it is easy enough. There is one thing, a shampooer from the nearest Turkish bath will generally come in for half an hour when his work is done for a shilling or two. If the skin becomes tender, or if for any other reason the rubbing cannot be continued, hot fomentations may be substituted. A piece of flannel rung out of hot water, folded in the middle and covered with a rather larger piece of oil-silk or thin mackintosh will answer admirably. It should be renewed as often as it gets cold.

People with jaundice are generally very low-spirited, and often drowsy, and quite unfit for any mental work. In most cases there is no occasion for them to remain in bed. They should get up late, dress leisurely, and then go in the sitting-room and spend the day lying on the sofa covered with a rug, or sitting in an arm-chair by the fire. The great thing is to have a novel or two by your side, and drop off to sleep when you are tired. It is of no use trying to see people on business, at least unless it is very urgent; for with all that bile circulating in the system your brain is not clear enough for serious work. A man with jaundice generally feels so frightfully despondent that he is apt to think he never can get over it, and yet it nearly always comes all right in a week or two. The great thing is not to catch cold, and not to return to solid food until you are quite sure you are out of the bush.

Constipation is a very great trouble. For days and days you have no call from nature, and when you do it is agony. You spend an hour or more over that simple operation, and the motion is so hard and unyielding that it is passed with the greatest pain. Sometimes relief will be afforded by pressing with the hand on the lower part of the back. It is a good plan to take one of the sugar and grey powders (Pr. 71) every four hours. If after two or three days you obtain no relief from them, try chloride of ammonium—twenty grains every four hours. If you watch your urine day by day, and also the motions when they are passed, you will be able to tell how you are getting on, and whether the medicine is doing you good. If the urine gets lighter in colour, or if the motions get darker, you are getting better. When it is all over you will probably find it necessary to go away for a change of air, for jaundice is a thing that pulls one down, and takes away all desire for work. It may seem hard to have to go away after losing so much time in the sick-room, but there is no help for it, and it is really economy of time, for if you do not get thoroughly rid of it you are very likely to have a relapse. When once it is quite gone, and you feel well and strong again, there is no reason why it should ever come back.

If the grey powders fail to act on the bowels, and very often they do fail, take either Friedrichshall or Pullna water. Try half a tumblerful every morning, with an equal quantity of warm water. It is much better to take it tepid than cold.

Should the above mode of treatment fail, we should advise a trial of purified bile from either the ox or the pig. As it is not desirable that it should come in contact with the stomach it should be taken in capsules. These capsules are obtainable from almost any chemist. They usually contain five grains each of prepared or concentrated bile, which, roughly speaking, is equal to about a hundred grains of

liquid bile fresh from the gall-bladder. Two or three may be taken as a dose, about two hours after meals, when the stomach digestion is near completed, and the food is passing into the intestines. The capsules imbibe moisture in the stomach, and in their soft, swollen condition they probably get broken as they pass into the intestines, so that the bile is landed just where it is wanted.

Flatulence is sometimes very troublesome in jaundice. Cajeput oil, in three-drop doses, on a piece of sugar, will generally bring up the wind, but, on the whole, it is better to take something that will prevent its formation. Ten or twenty grains of wood charcoal, or a charcoal biscuit or two, will often answer this purpose admirably. Creasote—two drops in a pill every four hours—sometimes does well. A tea-spoonful of compound spirit of horse-radish in a little water, or—and this is even better—a tea-spoonful of glycerine, with a few drops of chloric ether, in a couple of table-spoonfuls of peppermint-water, often quickly relieve this symptom.

The itchiness, which is often a source of great discomfort, will sometimes be alleviated by warm baths, the use of the flesh-brush, and the internal administration of twenty grains of bicarbonate of potash, in water, three times a day. Sometimes relief is obtained from acetic acid baths—half a pint of acid to three gallons of water. A lotion of chloroform (one part), and glycerine (five parts), often succeeds admirably. Olive oil, the calomel ointment of the Pharmacopœia, or lotions made by dissolving four grains of cyanide of mercury, or a drachm of cyanide of potassium, in a pint of water, are also useful. Whatever you do, do not get these lotions mixed up with your medicine, or take them by mistake.

For black jaundice, or malignant jaundice, as it is often called, phosphorus is the remedy. It is indicated when the skin and the whites of the eyes are of a brownish-yellow colour, when there is much prostration, with little bruise-like spots on the body, and when there is scanty, high-coloured urine. The phosphorus may be given in the form of capsules (Pr. 54), each containing $\frac{1}{30}$ of a grain, one every four hours; or from five to eight drops of the saturated solution of phosphorus in ether (Pr. 53), may be given at similar intervals, in a little milk. The phosphorous capsules are, on the whole, to be preferred.

When jaundice appears to have been suddenly engendered by moral causes, the *rationale* of its production is obscure, and the treatment is correspondingly uncertain. The jaundice of new-born infants calls for no treatment, as it causes no inconvenience, and usually passes off in a week or two. For the jaundice of pregnant women, delivery is the natural end, although it may sometimes be removed by the careful employment of aperients.

Should you send for a doctor in jaundice? It is as well to do so, although, truth to tell, you would probably get along just as well by yourself in an ordinary simple case. You are sure to feel very despondent, and it is just as well to have some one to see after you, and make sure that there is really nothing amiss. In the so-called green jaundice, and in jaundice coming on from mental causes, you should certainly have a doctor. If your jaundice lasts over a fortnight, you had better call in somebody, unless you are getting better.

JOINTS—DISEASES OF THE JOINTS.

The majority of the diseases of the joints, from their complexity and difficulty of recognition, require the attendance of a surgeon for their successful treatment. There are, however, a few of the simpler forms that may be fairly considered to fall within the province of domestic medicine. Some information on this subject, with directions for treatment, will be found in the articles on Gout and Rheumatism.

In many chronic affections of the joints the cold douche is an excellent remedy. It may be employed to remove the stiffness remaining after slight injuries or resulting from rheumatism or gout. In the earlier applications it is a good plan to play the water in the neighbourhood of the joint, rather than on the affected part itself. In some instances it is desirable to use tepid water, and in every case the part should be rubbed immediately after the application till they are warm and dry. When stiffness and pain occur in several joints nothing succeeds better than the Turkish bath, and they often succumb to this after resisting all other modes of treatment. Galvanism, too, often does good in these cases. Inunction with cod-liver oil or olive oil for five or ten minutes, night and morning, often effects great improvement, and it may succeed when other measures have failed. Constitutional treatment must not be neglected, and in many cases we have to trust to the influence of good diet and sea air, with cod-liver oil, steel wine, iron, quinine, &c. Some affections of the joints are dependent on a syphilitic taint, and then a course of iodide of potassium (Pr. 32) will do more good than anything.

In cases of stiffness arising from exertion, the part should be well rubbed with tincture of arnica, a drop or two, or a tea-spoonful of the mixture (Pr. 42) being taken internally in water every half-hour or oftener. *Rhus toxicodendron* sometimes proves useful; it does most good when the pains are accompanied by only a slight amount of swelling, and when they are intensified by warmth and motion. Three drops of the tincture may be taken in water every three hours. The internal administration of tincture of bryony (Pr. 49) is often attended with marked benefit; it is specially indicated when the pains are worse on movement. *Pulsatilla* (Pr. 43) proves useful for pains in the joints occurring in women with menstrual derangement.

KIDNEYS AND BLADDER, DISEASES OF THE.

Some of the more important diseases connected with the urinary organs have already been discussed under the heads of BRIGHT'S DISEASE, GRAVEL, and DIABETES, and further information will be found in the article on URINE. Rules for the treatment of SPERMATORRHŒA were given under DEBILITY.

There are few affections of the urinary organs in which there is not more or less frequency in passing water. In many people it arises from simple nervousness or debility. In women, too, it is not unfrequently due to some irritation or displacement of the womb. In children it is common, and directions for treatment will be found under *Bed-wetting* (see DISEASES OF CHILDREN, p. 3). We must now consider what can be done in the case of adults.

For women, especially middle-aged women, who suffer from frequent desire to pass water, or inability to retain it for long, the cautharides mixture (Pr. 47) will

be found most useful. It will often give relief even when the symptoms have existed for years. Another useful remedy is tincture of *nux-vomica*—five or six drops in a glass of water three times a day. Its efficacy may often be increased by the addition of five drops of laudanum to each dose. Twenty drops of tincture of belladonna in a glass of water three times a day is another good prescription. The iron mixture (Pr. 1) occasionally proves successful, especially if twenty drops of liquid extract of ergot be added to each dose. In obstinate cases the gelseminum mixture (Pr. 41) may be used. A little attention to diet will often work wonders, for there may be some one special article, such as tea or coffee, which is the cause of all the trouble. It is a good plan to sleep on a hard mattress, and the bed-clothing should not be too warm. At bed-time cold sponging of the lower part of the back will often prove useful.

In cases of prolonged inability to pass water a surgeon should be sent for without delay, or there may be danger of the bladder bursting.

LOSS OF APPETITE.

Loss of appetite is known medically as “anorexia.” It is of common occurrence at the onset of many fevers, but usually it is a far more chronic complaint. Nothing is commoner in London than to hear people say that they “have gone off their feed,” they “have no appetite,” they “do not care for anything,” or that they “hate the sight of food.” It is often enough associated with a condition of debility and general inaptitude for work. It is by no means uncommon in those who are worried and anxious, and find it difficult to make both ends meet. People who devote too much attention to the brandy-bottle generally find meals rather a trouble than otherwise; breakfast, especially, is a difficulty. These individuals are generally very dainty and fanciful, and when at home grumble at everything that is set before them. They are very fond of abusing the cook for what is in reality the morbid condition of their own digestive organs. Tobacco-smokers, or, at all events, those who smoke in any quantity, are seldom great performers with the knife and fork. Tobacco and opium and alcohol seem all to have the power of deadening the appetite. People who take little or no out-door exercise generally complain that they do not eat well, and no wonder. If a man wants a good appetite, he must earn it somehow or other. Some one may give him his dinner, but if he is to enjoy it he will have to bring his own sauce in the shape of an appetite.

Irregularity of meals is another common cause of loss of appetite. The stomach appreciates regularity, and likes to have its want attended to at the proper time. It is curious how in a well-regulated body the desire for food is experienced day by day at exactly the same hour. We all know how dreadfully bad-tempered many people get if their dinner is only five minutes late. It is all very well to say that they are stupid, and should not be put out about trifles, but it must be remembered that it is no trifle to them, and that even a slight delay may give rise to a considerable amount of bodily discomfort. The stomach has been accustomed to receive supplies at certain regular intervals, and, if it fails to receive them, it objects most emphatically. Nothing is more likely to spoil the appetite than eating or drinking between meals. You hear a man complaining that he cannot eat his dinner, and you

find on inquiry that about an hour before he had three or four dozen oysters, and some bread-and-butter, and a pint of stout, "just to pull him together." It may be thought that this is an exaggeration, but it is not. We have seen it, and we wish we had not, for nothing can be more contemptible than a man who makes a deity of his stomach. We should eat to live, and not live to eat. For people who dine in the middle of the day, lunch is a great mistake.

Many people seem to think that it would be a great hardship to go without food from 8.30 A.M. to 1.0 P.M. They make a good breakfast directly they get up: ham and eggs, and all the etceteras; and then at 11.0 A.M. they go in for bread and cheese and beer, or for the more aristocratic glass of sherry and a biscuit. Somebody once said that, "lunch is a reflection on your breakfast and an insult to your dinner," and it is a pity that more people do not bear this in mind. You can never expect to have a good appetite unless you allow a good five hours to elapse between each of the chief meals of the day.

Now a word or two about some of what may be called the curiosities of appetite. Sometimes a mother brings her boy to the doctor, and says she thinks he must have worms, "he is always eating—he is never satisfied." If the boy is strong and well nourished, let him eat by all means, and do not be stupid enough to give him anything to spoil his appetite. We do not suppose he has any worms, and even if he has it does not matter very much. They will not do any harm, and it is only fair that they should have a feast once in the way. At all events, if they do give any trouble, there is never much difficulty in getting rid of them, and we will speak of the different modes adopted for their expulsion by and by. In diabetes mellitus, or sugary diabetes, there is often, as we have already seen, a most inordinate appetite. It is no joke in the case of a poor man. Sometimes they seem as if they would eat almost any quantity, and we certainly should not like to contract for them. Hysterical young ladies often exhibit the most depraved appetites; they will eat almost anything, from slate-pencil to egg-shells. Few people like cinders as an article of diet, but they really seem to enjoy them. Pregnant women occasionally exhibit these vagaries of appetite, and either have, or pretend to have, inordinate longings for particular kinds of food. It is to be feared that these fancies are often fostered by encouragement; at all events, they are less frequently heard of among the poor, who have not the means of gratifying them, than in the higher ranks of society.

What is to be done for loss of appetite? In the first place, it is essential to avoid, as far as possible, any of the circumstances we have mentioned as causes of this complaint. Be regular in your habits; get up early; do not stay out late at night; take plenty of outdoor exercise; have your bowels well open every morning; do not drink much tea; be quite sure that you are not smoking too much, and are not taking more than you ought to in the way of stimulant. It is a great thing if you can dine in cheerful, pleasant society—the example of eating seems to be almost contagious. It is astonishing what a great deal bad cookery has to answer for in the way of exciting a distaste for food. Many a man living in rooms or chambers gets to hate the sight of his dinner, simply because he is so heartily tired of those everlasting chops and steaks. The best thing he can do is to get into a good club, and have his dinner there in a civilised fashion. In London there are nowadays

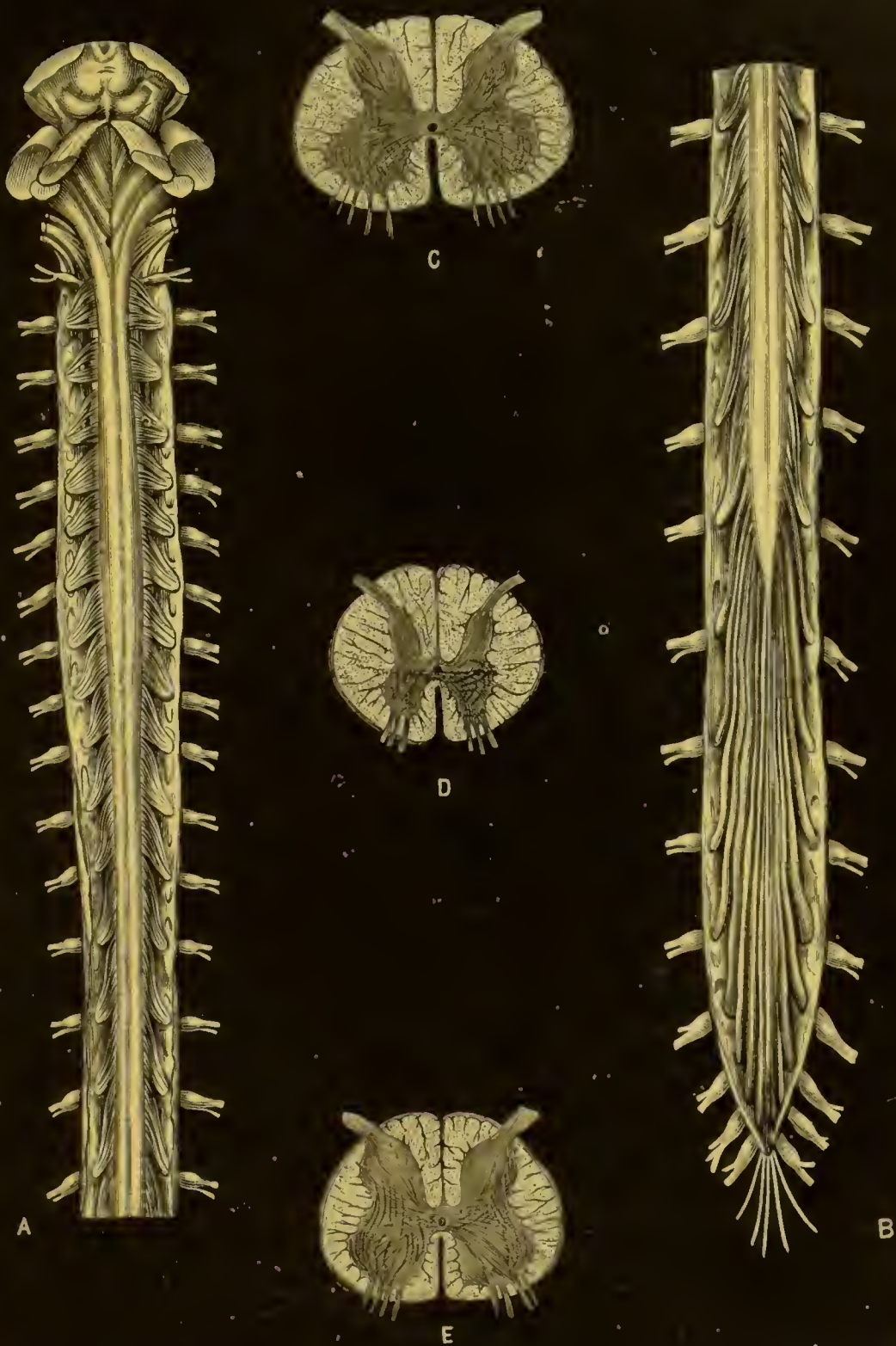
so many different restaurants—English, French, German, and Italian—that if a man cannot manage to get a little variety now and then, it must be his own fault. In some places you can even have your dinner served up to the accompaniment of vocal and instrumental music, which, we suppose, is to be regarded as a stimulant to the mucous membrane of the stomach.

The practice of taking bitters before meals with the view of increasing the appetite is a common one. It is undoubtedly a bad habit, but in certain functional derangements of the stomach an occasional gin-and-bitters or sherry-and-bitters may have its advantages. We may mention, *en passant*, that the custom of taking what has been called an “epigastric spurrer,” is by no means confined to our own country. In France the oysters and chablis or sauterne with which a dinner *bien monté* is preceded, may be regarded as an institution. In Denmark and Sweden dinner is invariably prefaced by a mouthful of caviare, or salt fish, or a dram of raw spirits. In Russia dram-drinking and condiment-eating preparatory to the prandial meal, are customs very widely disseminated, and in the United States we hear that pickled oysters and small cubes of salted cod are frequently to be seen on the marble bars of their palatial hotels, although these latter are probably to be regarded less as incentives to eating than as provocatives to drinking.

Probably the drug most frequently employed with the view of stimulating the jaded appetite is quinine. Two table-spoonfuls of the tonic quinine mixture (Pr. 9) should be taken about half an hour before meals, or two table-spoonfuls of quinine wine will do equally well. The infusion of quassia may also be used for this purpose, and its efficacy is greatly enhanced by the addition of three or four drops of tincture of *nux vomica*. *Nux vomica* is one of the pleasantest bitters we know, and will often succeed admirably, even when given in plain water. Other tinctures and infusions employed for a similar purpose are those of calumba, gentian, chirette, and cusparia. These infusions should be given in two table-spoonful doses, while the dose of tinctures is a tea-spoonful in water. The tincture of *nux vomica* it will be remembered is a much more powerful drug, and the dose of this should not exceed eight drops. The different preparations of hop are useful, but are, we think, best taken in the form of bitter beer. Absinthe, or wormwood, is largely employed on the Continent. With many people, especially those who are predisposed to constipation, two or three table-spoonfuls of compound decoction of aloes, or “Baume de Vie,” will succeed better than anything. We have given a formula for a “dinner-pill” (Pr. 65), which in many cases acts admirably. For elderly people, pepsin taken in five-grain doses half an hour before meals is useful. We need hardly say that for patients who are anæmic, or suffering from what is usually called “poorness of blood,” iron is the remedy (Pr. 1 or 2).

LOSS OF VOICE (APHONIA)—HOARSENESS.

By the term “aphonia” we mean loss of voice. It may vary in degree from slight impairment to complete dumbness, and it may be temporary or permanent. It may be due to mere functional disorder or to some structural change in the



MEDULLA OBLONGATA AND SPINAL CORD. (*From behind.*)

A. Upper half.
B. Lower half.

C. Section at middle of cervical portion.
D. Section at dorsal portion.

muscles and other tissues of the larynx. The functional variety is the more common, and is that to which we shall especially devote our attention. It is as a rule associated with and probably dependent on that peculiar condition which we recognise by the term hysteria. It occurs chiefly in women, and more especially in women in whom there is some disturbance or derangement of the functions of the womb. Sometimes the periods are deficient in quantity, but more frequently they are excessive. In some cases there is marked anæmia or even chlorosis. The patient sometimes completely loses her voice without any very apparent cause, and at others she speaks quite in a whisper, possibly for days together. In a fashionable school, where the studies were principally devoted to the so-called accomplishments, three out of the eight pupils suffered from occasional attacks of aphonia. In two of the cases the disease was hysterical, but in the third the affection was simply feigned, the young lady being capricious and wayward, though in good health. Galvanism, moral influence, and a course of iron cured all three patients. Such cases unfortunately are common enough, and are met with not only among the upper classes of society, but not unfrequently in the out-patient rooms of our hospitals.

In men aphonia has been known to result from a sudden shock to the nervous system. The case is recorded of a soldier who, in a charge of his regiment, received a severe bullet wound. He instantly and completely lost his voice, and for nearly two years was unable to articulate a word. He suddenly recovered his speech while in a state of excitement during an altercation in a public-house. In some cases aphonia is due to the pressure of a tumour on the nerves which govern the muscles of the larynx. It is then usually accompanied by marked shortness of breath.

There can be no difficulty in recognising the condition of which we have spoken under the term aphonia. It can never be confounded, even by the least observant, with that failure of articulate language which is the consequence of disease of the cerebral hemisphere—the seat of the mind.

The treatment of complete aphonia must, of course, vary with the cause. When it is dependent simply on some morbid condition of the larynx, the treatment recommended for relaxed sore throat and clergyman's sore throat may be resorted to with advantage. Benefit may be anticipated from the use of the astringent spray preparations. Every means must, of course, be taken to improve the condition of the general health. The direct application of galvanism to the interior of the larynx is sometimes followed by the most astonishing results. We on one occasion witnessed the instantaneous restoration of the voice by this means in a young woman who, we were assured, had not spoken a word for nearly a year.

In obstinate cases, *phytolacca* both given internally and used in the form of spray is deserving of a patient trial. The dose of the tincture is three drops every three hours, and the spray solution is made by mixing twenty-five drops with a quarter of a pint of water. Should this fail the internal administration of phosphorus may be tried (Pr. 53 or 54).

When there is only partial aphonia, and the patient is suffering from mere hoarseness, far less difficulty will be experienced in effecting a cure. In very many cases hoarseness is simply due to a cold, and the best treatment for it is the Turkish bath. When in the hot chamber the voice generally becomes quite clear and natural,

though the hoarseness may afterwards return in a slight degree. Improvement of the voice in the hot chamber may be taken as an indication that the bath has done good, even though after the bath the hoarseness returns to a great extent. In chronic cases several baths may be necessary to effect a cure.

An inhalation of sulphurous acid often proves beneficial. A few drops of the Pharmacopœia solution are added to a jug of boiling water, and the steam is gently inhaled. If carefully used, it excites hardly any irritation or annoyance. The application of the sulphurous acid may be conducted as follows:—Put a few hot cinders into a kitchen shovel, and sprinkle them from time to time with flowers of sulphur, till the room is not inconveniently filled with the smoke. The fumes of the acid are likely to act injuriously on steel or on gilt. The treatment is best conducted in an empty room.

A solution of alum, ten grains to the ounce, often proves of use when employed in the form of spray.

It has been found that a piece of borax, the size of a pea, allowed to dissolve in the mouth, restores the voice sometimes like magic, in cases of sudden hoarseness brought on by cold, and frequently, for an hour or so, renders the voice quite clear.

LUMBAGO.—(See RHEUMATISM, MUSCULAR.)

LUNGS—DISEASES OF THE LUNGS.

The diseases of the lungs most frequently met with are consumption, bronchitis, pleurisy, pneumonia, and asthma. Strictly speaking, asthma should not be regarded as a chest complaint, but as an affection of the nervous system, it being obviously more closely allied to such paroxysmal complaints as epilepsy, megrim, and angina pectoris than to bronchitis, pleurisy, and consumption. The great bulk of the patients who apply for relief at our chest hospitals are suffering either from consumption or chronic bronchitis. The form of chronic bronchitis, known as winter cough, is especially prevalent among the London poor who are much exposed to hardship and privation, and the same patients come under observation year after year, always obtaining relief, but never a cure. Only the other day an old woman informed us that for twenty-nine consecutive winters she had been an out-patient at the same hospital for her cough and breathing.

The symptoms of which patients with lung mischief most frequently complain are cough, accompanied by expectoration, shortness of breath, spitting of blood, night sweats, and loss of flesh. Sharp cutting pains in the side are of common occurrence in pleurisy and inflammation of the lungs, whilst dull aching pains under the collar-bones are not uncommon in consumption. The mere appearance of a patient will, in many instances, enable us to form some idea of the nature of his complaint. For instance, a tall, thin young man enters the room, and as he walks up to the table and we notice his want of muscular development and general feebleness, we have no difficulty in deciding that in all probability he is the subject of consumption. Following him comes a great big burly fellow, evidently a navvy, and as we mark his

shortness of breath, and listen to his paroxysmal cough, we conclude that he is probably suffering from chronic bronchitis. These are not infallible signs, but to the practised eye they are replete with meaning.

A patient's occupation or mode of life undoubtedly exert a marked influence in determining the nature of the lung disease from which he will suffer. The clerk spending his days in a dark, dull, ill-ventilated office, working in a constrained attitude with his chest-walls fixed, falls a victim to consumption, whilst the bargee or street hawker, exposed day after day to the inclemency of our climate, constantly getting wet through, without the opportunity of changing his soaking garments, contracts chronic bronchitis. Although the primary complaint made by both these patients may be the same, it will be found on entering more fully into detail that their cases are essentially different. Both, for instance, complain of cough. The consumptive tells us that he has a nasty dry hacking cough that keeps him awake at night, and this came on so gradually that he can hardly say when it began, but he is positive he has had it for only a few months. The patient with winter cough tells a very different story; he has had his cough every winter for years; it is an old business with him—he has been to every doctor and hospital in London, and says he does not expect to be cured, and all he wants is something to ease the cough and stop the shortness of breath which makes him “wheeze like a broken-winded horse.”

In the early stage of consumption there is often little or no expectoration, but the winter cough man on the contrary is always spitting up “a lot of phlegm,” “thick, yellow, nasty-looking stuff,” “all black from the fog.” The consumptive not unfrequently spits blood, although this is not to be regarded as a constant symptom. We have known cases in which the disease has run its course from first to last without the appearance of a single drop of blood. In chronic bronchitis there is never any real spitting of blood, although after a violent bout of coughing, such as the patient often gets the first thing in the morning, there are not unfrequently streaks of blood in the expectoration. This often alarms people very much, but quite unnecessarily, for it is no indication of the existence of consumption, and simply shows that the paroxysm of cough has been more violent or more prolonged than usual. Many doctors make it a rule never to regard anything as spitting of blood unless it amounts to a tea-spoonful at a time. There is often a little oozing of blood from the gums, or perhaps from some trifling abrasion of the throat, and to a superficial observer, or to a hypochondriac, this might readily be magnified into an attack of blood-spitting. Hence the necessity, when any one tells you that he has been spitting blood, of ascertaining the precise quantity that has been expectorated. Then, as to shortness of breath. This is usually a far more prominent symptom in chronic bronchitis than in consumption. The consumptive complains of weakness and debility, but is not conscious of any shortness of breath, at all events in the early stages. In winter cough, on the other hand, shortness of breath is always a prominent symptom, and is often so marked that the patient cannot walk across the room without puffing and blowing, whilst getting up-stairs is almost a morning's work. Loss of flesh occurs more frequently in consumption than in other lung affections. In chronic bronchitis, it is true, there is usually some loss of flesh in the winter, but the patient quickly regains it when the summer comes.

again ; and there is no progressive loss as there is in consumption. Mere variation in weight is never of much consequence, a gain to-day and a loss to-morrow, but progressive loss of weight going on steadily for weeks or months is a bad sign, unless it can be accounted for by some change in habit or mode of living. In the lung diseases which run an acute course, such as pleurisy and pneumonia, there is a loss of weight corresponding to the amount of fever, just as there is in scarlatina, measles, or small-pox, but this is rapidly regained on the establishment of convalescence, and is no evidence of the existence of consumption. Night sweating, one of the most distressing and exhausting symptoms of consumption, is seldom met with in other chronic lung affections. We have often asked the winter cough patients if they suffer from perspiration at night, but the reply is nearly always in the negative ; they tell us that, on the contrary, the skin "will not act," and they never can get in a perspiration, though they wish they could, for they think it would do them good.

We have already had occasion to refer incidentally to the influence of occupation in the development of chest diseases, but we have no hesitation in returning to the subject, seeing that a knowledge of certain facts connected with it may have considerable weight in the selection of an occupation for a boy coming of a consumptive stock. It is a curious fact that although a man may be fully aware that his trade is an unhealthy one, and that the work has gradually undermined his constitution, he generally ends by bringing his children up to it. Open-air occupations are of all the most suitable for those threatened with lung disease. First and foremost stands agriculture, which is recommendable for the exposure to pure air which it implies, for the abundant exercise it involves, and for the simple hours, habits, diet, and amusements which of necessity accompany it. There is no temptation to indulge in excesses of any kind ; there are not the enticing surroundings of city dissipation, and the excitement of professional business ; political or fashionable life is not at hand to urge the feeble to join in a race in which the strong are the winners, and the weak drop behind strained and shaken by the conflict. Whether, therefore, this country life implies being a landed proprietor, living on and exercising the duties of his estate ; a farmer subsisting by the daily superintendence of his work ; a labourer doing the drudgery of toil, and earning his daily bread literally by the sweat of his brow ; or a shepherd in one of our rising colonies, it is preferable to the largest independence in a city. As a recent writer on consumption says : "Let those who have money and to whom there exists no necessity for increasing their means, visit the interesting and beautiful parts of their own country. Let them go abroad and see what is new in institutions, wonderful in natural phenomena, grand in nature, and worthy of study in art. A long and healthy sea-voyage may convey them in renewed vigour to the calm and even climates of Tasmania or New Zealand, or the more bracing air of South Australia. Here let them live on horseback and enjoy all that is new and exciting in these younger nations of the earth. The extremes of climate are not forbidden them, and a winter in Canada, or a summer in Norway, may lend them new vigour. In the pure and invigorating air of the upper regions of Mexico, Oregon, or Peru, in the exciting atmosphere of the Cape, are to be found, it is said, fresh

pleasures to the senses, and stimulants to the nervous and muscular powers, such as must be experienced to be described. But man can bear and even profit by all extremes. The relaxing influence of Grecian or Roman plains, or of Egypt, the fresh, dry, and calm desert air, the life passed in tents, are spoken of by travellers as giving new vigour, from the healthy tone which is imparted to the nervous and muscular powers. We have all met with men who have done much of this—cultivated men, and not mere idlers—wanderers of necessity and of liking, who have fought off the inherited taint, and who have lived to old age, hardy and vigorous, and “temperate in all things.” And this, which need not be an altogether selfish existence, but may include many to help and much that is useful to do, is one of the high and pure enjoyments which, in certain cases, money is permitted to purchase.” This may appear almost utopian, but it must be remembered that consumption is the heritage of the rich as well as of the poor, and to many such a mode of life would be quite possible. Every man can bring his children up to an out-door occupation of some kind, provided only that he can make up his mind to sacrifice something; and he should remember that he can make no greater sacrifice than that of health. In any particular case it is no easy matter to select the climate which possesses the greatest advantages and the fewest drawbacks. There is no model climate, and no country can boast of being perfect. In making the selection attention must be paid to the sick man’s general condition, and to the amount of constitutional strength. Then as regards the locality attention must be paid to its aspect, its drainage, its elevation above the sea level; to the temperature and its equability; to the dryness or moisture of the soil and atmosphere, a degree of heat being often well borne when the air is dry, which is quite unbearable when it is moist, and to the nature of the prevailing winds. The amount of rain which descends in a season is not of such moment as the way in which it usually falls, a region liable to sharp heavy showers being much more favourable for the individual than one where it drizzles—like a Scotch mist—for days together. A clay soil should be avoided; get on gravel if possible. Luxuriant vegetation is not always a recommendation, for often enough it means high temperature combined with moisture, conditions not favourable for the consumptive. Districts where marshy lands abound, or where occasional inundations occur, are notoriously unhealthy, for the evaporation of the water lowers the temperature, whilst the decaying vegetable matter may set up ague.

The best time for leaving England is between the end of September and the middle of October, and a patient suffering from chest disease should not return till the beginning of May. He must remember that in going abroad he is merely placing himself under the conditions most favourable for recovery, and that he is not justified in abandoning other remedial measures. He must not lose sight of the fact that he is still an invalid, and must be careful not to run to excess in the matter of sight-seeing. For a sick man to visit picture galleries, museums, damp old ruins, and cold churches, is often to frustrate the only object he should have in view, the restoration of his health. In even apparently hopeless cases, a visit to another part of the sufferer’s country, or to some foreign station, will now and then ward off complications, give mental exhilaration, promote appetite and digestion, and insure tranquil nights.

It is a curious fact that butchers are almost exempt from consumption. If we remember that their shops are airy and open, that they are abundantly fed on animal food, and that from early morning they are rapidly driving about in the open air, taking much exercise and living well, we shall be able to understand the influences which prevent the access of chest affections. These conditions of open-air exercise and high feeding are in fact antagonistic to consumption. It must not be supposed that we are urging all threatened consumptives to become butchers, but their mode of life might be imitated with advantage.

Dust is one of the commonest causes of lung mischief. In many cases it is not the only exciting cause, but often it is the chief and most deadly of several deleterious influences to which workmen are exposed. The mortality amongst those employed in many dusty occupations is simply enormous. We are told few men who enter certain rooms in cotton factories ever live to attain to the age of thirty-eight. Out of twenty-seven men in a certain flax factory, twenty-three had some form of chest disease. The noxious influence of varnishes, turpentine, and drying oils in developing consumption is well known. Chest affections are by no means unfrequent among artisans who use solder, such for instance as tinmen, coppersmiths, and goldsmiths. Wood-turners, and those whose work necessitates the use of sand-paper, are usually great sufferers. Many plans have been devised for preventing the entrance of dust into the air-passages, and some are very simple and worthy of adoption. The practice of wearing a respirator, or a veil over the mouth and nostrils, with the growth of the beard and moustache, may be cited as examples. The objection usually made to the respirator is the expense, but one made of cork can be obtained from the chemist's for a shilling. The midday meal should never be taken in the work-shop, and the hands should be washed before going out to dinner. These may seem little matters, but only those who have workmen for patients know how constantly they are neglected. In dusty occupations the pores of the skin get blocked up by the dirt, and it then ceases to perform its functions. Normally it acts as a direct purifier of the blood, being associated with the kidneys and lungs in this office.

Among the conditions favouring the development of chest disease, there are none more certain than depressing passions, especially when profound or of continual occurrence, and this perhaps is one of the causes of the greater prevalence of these complaints in large towns, where bad habits and bad conduct are more common, and are so frequently the cause of those bitter regrets which neither time nor consolation can assuage. Some years ago there existed in Paris a nunnery of a new foundation, which had not been able to obtain from the ecclesiastical authorities anything but a temporary tolerance, on account of the severity of its rules. The alimentary regimen of the inmates, although extremely severe, was still not beyond the bounds of nature; but the spirit of the rules of the nunnery, directing the mind to the most terrible rather than to the consoling truths of religion, as well as compelling the inmates to resign themselves in everything to the will of the abbess, produced effects as sad as unexpected. These effects were the same in all. At the end of two months' sojourn in this house, the menses became suppressed, and in a

month or two afterwards symptoms of threatening consumption appeared. As the nuns had not taken the usual vows, some of them were advised to leave the house, and all who did so recovered. But during the ten years that followed the opening of this establishment, the numbers were renewed twice or thrice, with the exception of the superior, the gatekeeper, the sisters who had the care of the garden, of the kitchen, and of the infirmary, and of such as had more frequent intercourse with the city, and consequently greater distraction. The rest died of consumption.

It is a point worth noting that the subjects of consumption have in a large number of cases had peculiarities of likes and dislikes for different articles of food, even from very early life, and whilst seemingly in perfect health. Among these peculiarities, the dislike for fat is at once the most prominent and the most important. Thus, it may be predicted of a family in which one child distinguishes itself from its brothers and sisters by constant refusal to eat fat, that such a child is more likely to fall into a decline in after life than any of the others. In people who are actually consumptive, this dislike for fat is in many cases very marked. The fat of fresh meat is generally the first to disagree, then salted meats, such as bacon, and lastly butter. In exceptional cases, this distaste extends to sugar, and even to alcohol.

There is a prevalent opinion among all classes of society that in young women marriage tends to ward off or even cure consumption, but there is in reality nothing to favour this view. On the contrary, the existence of any symptom of consumption should be regarded as a distinct bar to marriage. To those exhibiting any such tendency, suckling must be considered prejudicial to a degree. It may be laid down as a rule that mothers already in consumption, or threatened with that affection, should on no account nurse. The infant must be provided with a wet nurse, should the mother be delicate, and care should be taken to select for this office a woman free from all suspicion of lung mischief, either hereditary or acquired. Suckling is to the weak and delicate a certain source of ill-health, and is a ready mode of developing chest disease, while the child is sure to be imperfectly nourished. Moreover, it draws with the supply from its mother's breast an additional element of danger to that which results from its parentage. Children of consumptive parents should be brought up on milk, diluted, if necessary, with water, alone, the admixture of other matters before the teeth are cut being fraught with danger. A plentiful supply of fresh air is highly necessary, or the infant will be peculiarly liable to attacks of bronchitis. The risk is in staying in the house, and not in going out of it. Daily bathing is a valuable habit. At first the bath is to be tepid, but very soon it may be taken almost cold. The best method is simple and rapid immersion, which is to be preferred to the slower process of sponging, the object being to obtain a quick reaction. As the child gets older, open air exercise is to be sedulously cultivated. It must be remembered that there is no possibility of safety without it. No plea for education, no false theories about catching cold, are to be allowed to stand in the way of it. Sedentary occupations and close rooms sow the seeds of death where there is a predisposition to lung affections.

The subject of the proper ventilation of the sleeping-room is one of primary

importance to the weak and debilitated, for by many eminent authorities it is considered that the presence of an unduly large proportion of carbonic acid in the air is one of the chief causes of consumption. It is known that if one per cent. of carbonic acid exist in a room the air is unfit for a healthy person, and it must obviously be much more so for any one with a tendency to chest disease. A single room should never perform the two offices of bed-room and sitting-room. The temperature should be kept pretty uniformly at from fifty-five to fifty-six degrees. In some hospitals for consumption it is much higher, but we cannot help regarding this as a mistake, for the wards get stuffy and the patient weak and languid. There is too great a tendency to regard consumption as a hothouse plant. An abundant supply of light and fresh air would be much more to the purpose. In winter there should be a fire in the bedroom—lighted some hours before bed-time ; and it is a good plan to have a Louvre ventilator, two feet square, in the door, with access of fresh air from an open window on the adjoining staircase. This should be open day and night, but it may be partly closed in severe cold weather in winter. This method of always obtaining fresh air by an open window has many advantages, one of the chief being that the air so entering is obtained from the upper strata, and not from a level with the street. Moreover, a fire in an open fireplace is one of the best of ventilators. In summer when no fire is necessary, the bedroom window should be left open for a couple of inches at the top. Even children run no risk of catching cold provided only that they have plenty of bedclothes. The importance of early accustoming those with weak chests to sleep in fresh air cannot be over-estimated.

In cases where there is a tendency to consumption but yet no actual disease of the lungs, any exercise which will develop the chest muscles will prove highly beneficial. Walking, which implies a certain activity of the arms, undoubtedly does good, but still it hardly brings the right muscles into play. When we speak of walking we of course mean sharp walking, for those funeral processions in which girls at school are forced to take part are in no sense of the word exercise. A carefully selected system of gymnastics is more likely to do good, and one of the best things a young man can do is to go to a gymnasium for an hour or two daily and get himself put through a regular course of training. He cannot well do it for himself, but should have some one to guide and instruct him. If the gymnasium is out of doors so much the better ; at all events, it should be thoroughly ventilated. Should the season of the year or the weather not permit of out-door amusements, dumb-bells at home or some well-contrived apparatus for arm and back should be daily used in the house, and with open windows. Boxing is capital exercise for boys. Rowing, running, and riding, if not carried to excess, will do much to expand the chest. Even in advanced consumption horse exercise may be taken with advantage. For families who are fortunate enough to live near a river or lake, there is nothing for the girls better than rowing a light boat or sculling. It expands the chest, throws back the shoulders, and straightens the back. Many a sculpturesque figure will acknowledge her debt to her boat for her beauty. A few weeks' instruction in swimming will take away all sense of danger from the amusement. Under a judicious system of training an undeveloped man, even though he may be feeble, narrow-chested, and sickly, may become active, full-chested.

and healthy. We find many examples of this metamorphosis among the boys in our training-ships for seamen. The over-fed, short-winded pugilist, rower, or cricketer, may in a few weeks be changed by training alone to the firm-fleshed, clear-skinned, long-winded winner of the fight, the foot-race, or the rowing-match. It is quite within our power to direct the physical training of young persons so that the apparently sickly and short-winded may in time be developed into the wiry, active young man, long in the wind, sound in body, and lithe of limb; but this result can be attained only by judicious feeding, careful exercise, throughout the whole course of the development of the body, and by the gradual nursing of the breathing powers. For feeble people the first attempt at exercise may be made at home by reading aloud, singing, and the practice of sustaining a note preceded by a deep inspiration, and of course followed by one. Taking a good deep breath so as to thoroughly expand the chest is highly beneficial to those who are weak on the lungs, or who come of a consumptive stock. It is not by any means to be considered a substitute for out-door exercise, although it is a valuable adjunct. Playing wind instruments often does more harm than good, for it tends to induce congestion of the lungs, and not unfrequently gives rise to a blood-spitting. Smoking, except in the strictest moderation, is likely to prove injurious.

The great advantage of out-door exercise is that it increases the appetite, and it is far better that the assimilating processes should be quickened in this way than by the use of tonics or other artificial provocatives. A great point in the treatment of the weak-chested is to get them to take plenty of nutritive material in an easily assimilated form. Bread with milk, eggs, and fresh meat twice a day, with a due admixture of vegetables, will constitute the ordinary diet. In many cases large quantities of milk may be given with decided advantage. Most people can take two or three pints without trouble, but in exceptional cases twice or three times that quantity may be consumed within the twenty-four hours with benefit. Should it seem cold and heavy on the chest it may be taken tepid. Some people, although they cannot assimilate milk alone, digest it without the slightest trouble if diluted with an equal quantity of soda water or lime water. There is no objection to the addition of a tea-spoonful or even a table-spoonful of rum or brandy to the tumblerful of milk, as an occasional relish, but we must be careful not to run to excess in the matter of stimulants, especially with young people. The habitual use of stimulants should be avoided by those with a tendency to weakness of the chest. For the general improvement of nutrition their effects are too evanescent, and the resulting reaction too debilitating.

Mental over-work is a frequent cause of deterioration of the health, and this condition is by no means confined to those in advanced or middle life. It is by no means uncommon in schoolboys. It is even said to occur in babies whose precocious intellects have been unduly stimulated by an injudicious parent or ignorant nurse. When a boy is over-worked, one of the earliest symptoms is sick-headache, nervousness, and a disinclination or unwillingness to take part in the games of his school-fellows. He not only finds a difficulty in concentrating his attention, but learns his lessons unwillingly; the attempts to do so being not only very irksome, but invariably bringing on the headache. A vacant stare is often seen upon his face, and

the bright look of boyish glee has given way to one of worry and anxiety. Melancholy often accompanies his failures as he and his friends become cognisant of the change that has taken place. The boy is generally better at night after food, and at early morning after sleep, but is especially stolid at intermediate times. These cases, if not looked to, often end in a general break-down with the development of some chest affection.

The education of threatened consumptives should be physical rather than mental. Accomplishments are all very well in their way, but they are not much without health. A fair amount of study is undoubtedly advisable, but the weakly youth should be encouraged to pass his time out-doors in the fresh air, rather than in the school-room or study. An hour's gallop will do him more good than a page of Euclid. Boys coming of consumptive parents should not, as a rule, be permitted to go in for competitive examinations. There is a growing opinion amongst medical men that the competitive system is, in a large number of cases, productive of the most serious injury to the bodily health. We know that for the real struggle of life vigorous health is of even more importance than intellect. How many have attained eminence simply because, in addition to a certain amount of industry, they are blessed with "the constitution of a horse?" and how many feeble ones have been swept away to make room for the present occupants of our first positions at the Bar, in political life, in administrative appointments, and in medicine?

People with weak chests often anxiously inquire whether their weight is what it should be at their age. This is, undoubtedly, a point worth investigating, and we append a table showing the average height and weight of the human body between the ages of eighteen and thirty.

TABLE SHOWING THE GROWTH OF THE HUMAN BODY FROM 18 TO 30 YEARS OF AGE AS INDICATED BY HEIGHT AND WEIGHT.

AGE.		Height.		Weight.		AGE.		Height.		Weight.	
Years.		Ft.	Ins.	St.	lb.	Years.		Ft.	Ins.	St.	lb.
18		5	4	8	10	25		5	6	10	5
19		5	4	9	4	26		5	6	10	1
20		5	5	9	5	27		5	6	10	4
21		5	5	9	5	28		5	6	10	2
22		5	6	9	12	29		5	7	10	5
23		5	6	10	2	30		5	6	10	1
24		5	5	10	2						

Growth expressed by stature and height is most marked between the ages of fourteen and sixteen. Its rate is as much as three inches in height during that time, and about ten inches from the age of eleven to eighteen. From eighteen to twenty-five it is usually about two inches.

Persons of spare habit and a temperate mode of life are able to sustain fatigue, and to make prolonged exertions which the more robust and fleshy often find it impossible to undergo. Moreover, thin people bear loss of weight, even of rapid occurrence, with comparative impunity, whilst on the other hand the corpulent and flabby

are thrown into immediate peril by disease involving reduction, such, for example, as acute inflammations, and severe mechanical injuries, necessitating a restricted diet for their treatment. Thin people often make a mistake in trying to get fat.

We have no intention of entering into the treatment of lung diseases, for full directions will be found under the individual complaints (*see* CONSUMPTION, BRONCHITIS, PLEURISY, &c.). We may, however, mention that cod-liver oil may nearly always be used with advantage in chronic cases. We rarely fail to induce a patient to take it in some form or other. Some people like it best in milk; others cover the taste by eating a piece of red herring, or anchovy, or sardine before or after the dose. A very good plan is to add to every two tea-spoonfuls of the oil from ten to twenty drops of ether. The pure ether of the British Pharmacopœia must be used, so that the oil may not be rendered muddy, as it would be if the ether contained spirit or water. This combination is indicated whenever there is an inability to take the oil in the usual way. It makes an emulsion, and fat or oil when emulsified is more easily digested than in any other form. A stomach once intolerant of fat will good-naturedly accept full doses of cod-liver oil if combined with ether. Many doctors maintain that the administration of tincture of pulsatilla, in small doses, will enable their patients to digest fat in any form. It is very desirable that the oil should be the best of its sort, that is, as free from smell, taste, and colour as possible, showing its careful and recent preparation. It is not a bad plan, where there is likely to be a large consumption of cod-liver oil, to have a barrel over from Newfoundland. We have known this done in several cases. Many large firms do it for the benefit of their employes. In cases where there is an insurmountable objection to the oil, some substitute may be found. It is a capital plan to take a pint of milk, *warm from the cow*, several times a day. It is so prescribed in order that the cream may not be removed by skimming, but the entire milk obtained. Milks rich in fatty matter, such as asses' milk and milk drawn from the cows at a short interval after the greater part of their milk has been withdrawn, and known as the "droppings" or "after-cup," are found to be beneficial. The same may be said of cream, Devonshire cream, and butter. There are many ways in which butter can be taken without upsetting the stomach. Haricot beans or lentils will soak up an enormous amount of butter, as every cook knows, and they form a very convenient mode of administering fat. Baked potatoes may be used, too, for the same purpose. Success has in many cases attended the use of caviar, fat bacon, and the marrow of bones. Oysters are especially nutritious. The following somewhat old-fashioned remedy may be found useful as an article of diet and adjunct to other treatment:—"Take of linseed, half an ounce; fine bran, one ounce; water, one quart. Boil these for two hours and strain; then add beef, mutton, or any other meat that may be fancied, to the amount of one pound, and boil to a soup with vegetables, to which celery-seed or other flavouring may be added. The whole quantity ought to be reduced by one-third." The following is not to be despised:—Take six eggs, which must be quite new-laid, wipe them with a damp cloth and put them in a large basin. Now squeeze over them the juice of seven lemons. Soon little bubbles of gas appear in the fluid indicating that the acid is acting on the shells. Continue the maceration till the shells are quite dissolved.—this may take two or three days—then beat up the eggs with a pint of

the oldest Jamaica rum, strain through muslin, and add a quarter of a pound of sugar-candy. A table-spoonful to be taken two or three times a day. Port wine jelly sometimes proves useful, and is an excellent remedy for any little hacking cough. It is made as follows:—Put into a jar a pint of port wine, two ounces of gum arabic, two ounces of powdered white sugar-candy, a quarter of a nutmeg grated fine, and a small piece of cinnamon. Let this stand closely covered all night. The next day put the jar into boiling water and let it simmer till all is dissolved, then strain it; let it stand till cold, cut it and take a small piece occasionally. Sometimes it is a little tough, not to say leathery, but this may be obviated by using rather less gum and isinglass. In some instances good results have been obtained from neat's-foot oil—the oil that is obtained from the foot of the young heifer. Pancreatic emulsion undoubtedly succeeds admirably in some cases, as we can testify: a tea-spoonful being taken twice a day an hour after a full meal, in a tumbler of milk, to which a table-spoonful of brandy or rum may be added. The only objection to it is that it is costly. Lard may be made into an emulsion, and we are not at all sure that it would not succeed equally well. These remedies may be given either in consumption or chronic bronchitis; in fact, in any long-standing chest complaint. The benefit derived from cod-liver oil in consumption is generally recognised, but the fact that it does almost as much good in winter cough is not so generally known. It is an error to suppose that cod-liver oil is good only for young people, for it answers admirably for those advanced in years. We have given it to octogenarians and nonagenarians with marked benefit. Infants can seldom take cod-liver oil. It usually disagrees before the ninth month, and often until the child has attained the age of one year. In these young children it is an excellent plan to rub the body all over with pure olive oil night and morning before the fire; it will be found that absorption takes place more readily when the child has just been taken out of its bath and then wiped dry. Rubbing the skin hard is an excellent tonic, and is useful for the relief of many of the local conditions of discomfort, pain, and distress, for which the

patient most frequently applies to the physician.

In many chest affections, especially bronchitis and

inflammation of the lungs, it is desirable to keep the air of the room moist. An ordinary kettle placed on the fire may accomplish this purpose, but often the draught up the chimney carries all the vapour with it. A piece of tin tubing fixed on to the spout, so as to project beyond the fireplace, will obviate this difficulty. Some people use a "bronchitis kettle," in which a long spout is fixed into the lid. Its shape will be seen in the

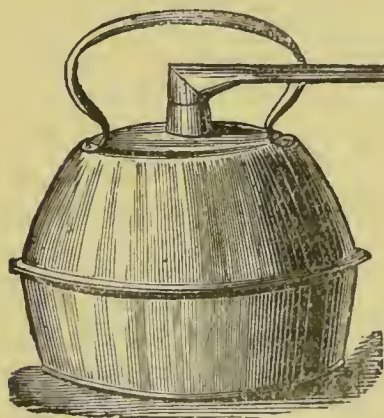


Fig. 7.—BRONCHITIS KETTLE.

accompanying figure. It might be knocked together by any tinman for a few shillings, or the lid and spout might be fitted to any kettle in ordinary use. Siegle's steam spray apparatus (Fig. 2) is useful for moistening the air of the room, and has this advantage, that it may be placed near the bedside.

LUNGS—INFLAMMATION OF THE LUNGS.

Inflammation of the lungs is known technically as pneumonia. In this disease the substance of the lung itself is in a state of inflammation; in bronchitis it is the air passages that are inflamed; whilst in pleurisy the inflammation attacks the pleura or membrane covering the lung. In acute pneumonia the fever runs as high, and the whole course of the disease is as abrupt as in many of the eruptive fevers. As a rule pneumonia attacks only one lung, the lower part or base being primarily involved. Occasionally there is inflammation of both lungs, and then we speak of it as being a case of double pneumonia. When pleurisy and pneumonia co-exist, as they often do, the complaint is known as pleuro-pneumonia.

A consideration of the causes of pneumonia may help to throw some light upon its nature and the place it should occupy in the classification of diseases. It is more frequently met with in climates presenting marked and rapid variations of temperature than in those characterised by extremes of heat or cold. Thus in tropical regions it is uncommon during the continued hot seasons, and on the other hand in some of the expeditions to the North Pole, the complaint has been almost unknown. It is said also to be very rare in Iceland. In Egypt, too, it is rare, though bronchitis is common in the valley of the Nile. There is a general opinion that pneumonia is of more frequent occurrence among the labouring than in the wealthier classes of society, and that among the former those whose occupations involve the severest exertion and the greatest amount of exposure are most likely to suffer. In the army the soldiers are more frequently attacked than the officers. The greatest number of cases occur, as might be supposed, during those months of the year in which there are the greatest vicissitudes of temperature, notably in the months of April and May. Pneumonia attacks both the young and the old, and it is unquestionably a common disease of early life. Men suffer very much more frequently than women, and this is easily accounted for by their increased exposure to climatic and other injurious influences. Opinion differs as to whether pneumonia is more likely to attack the vigorous or those previously in bad health. It must be remembered that the robust are more likely to be exposed to the weather and to changeable climates and temperatures, for the weak and delicate stop at home and take care of themselves. It has been noticed that some people are liable to repeated attacks of inflammation of the lungs—a peculiarity which may be due either to some special but unknown constitutional predisposition, or to the fact that previous attacks induce a proclivity to their return. The latter hypothesis is probably the true one. The most frequent exciting or immediate cause of pneumonia is cold, in some form or other, and in many cases the attack can be distinctly traced to getting wet through, sitting in a draught when heated, or some similar influence. Boys get heated playing football or by some other violent exercise, and then throw themselves down on the grass to get cool, and often enough the result is an attack of inflammation of the lungs. This is more likely to occur, the body being exhausted by the previous exercise. Excessive exertion seems to act as an occasional cause. In many instances pneumonia has been produced by things “going the wrong way” and getting into the lungs in eating or drinking. Inflammation of the lungs is not

unlikely to be set up in the course of other diseases, and it is a complication for which we must always be on the look-out. In Bright's disease, for example, it is not of unfrequent occurrence.

Pneumonia is commonly ushered in by restlessness with general febrile disturbance. At the end of from one to three days there are rigors, soon followed by nausea, cough, pain in the side, distressed breathing, a pulse reaching 140 or even 160 beats in the minute, burning heat of the skin, thirst, loss of appetite, prostration, headache, and sometimes even transient delirium. Not unfrequently the patient describes the succession of his symptoms as shivering, fever, cough, and breathlessness.

The onset of pneumonia is most commonly marked by rigors, which are usually severe, their frequency and intensity being greater in this than in almost any other disease. Pain in the side appears to exist only in those cases in which the inflammation of the lung is accompanied by some degree of pleurisy. This, however, is of frequent occurrence, the pain being commonly felt on a level with or a little below one or other breast, but it may be experienced in almost any other part of the chest. Generally it is most severe at the beginning, and declines by degrees, ceasing altogether for some time before the pneumonia terminates. It is aggravated by cough, by a deep breath, and often by sudden changes in posture, or by pressure made on the ribs. Shortness of breath is also of constant occurrence, although it varies greatly in degree. Sometimes it is so slight that the patient is not conscious of it, and even the physician scarcely perceives it. Sometimes it is so extreme that the patient, entirely regardless of what is going on about him, seems wholly occupied with respiring, is unable to lie down, and what with the shortness of breath, cough, and pain in the side, can scarcely speak. The number of respirations in a minute is seldom less than thirty, often thirty-five to forty, and they may even reach sixty or seventy. The cough, which is one of the earliest symptoms, is short and hacking, and rarely comes on in paroxysms. It is usually dry at the outset, but in a few hours is accompanied by a peculiar expectoration, which constitutes one of the most certain indications of the presence of pneumonia. The expectoration consists of transparent and tawny or rust-coloured sputa, uniting in the vessel containing it into a jelly-like and trembling mass of such viscosity that the spittoon may be turned upside down and shaken without spilling its contents. This characteristic appearance may perhaps not be noticed for the first day or two, but it is almost always present at some period in the course of the disease. One of the most marked features of pneumonia, and one that will often suffice to distinguish it from other complaints, is the sudden and considerable rise of temperature which marks its invasion, and is usually maintained until the occurrence of the crisis. It is not uncommon for the thermometer to mark a temperature of 103 or 104 degrees within a few hours of the first feeling of illness.

In the majority of cases pneumonia ends in complete recovery. Usually a marked crisis takes place, the temperature falling rapidly to the normal, while the pulse and respiration diminish in frequency and the other symptoms abate, convalescence being soon established. This happens usually from the third to the eleventh day, most commonly about the end of the first week. It is often marked

by profuse perspiration or an abundant discharge of urine, and occasionally by diarrhœa, bleeding from the nose, or the development of a skin eruption.

The symptoms we have enumerated will, we trust, enable our readers to recognise the nature of the affection. This is a disease in which the attendance of a medical man is very necessary. It is always serious, especially in the very young, and those advanced in life. Other circumstances which increase the danger are the fact of the patient being a woman, the occurrence of pregnancy, the existence of debility from any cause, previous habits of intemperance, or previous disease of the heart, lungs, or kidneys.

When it is really impossible to obtain medical advice, the following hints as to treatment may prove of service. In the first place, the patient must be confined to bed. A fire should be kept burning night and day, even in summer. It is a good plan to have a kettle of water on the hob, the steam from which will serve to maintain the air at a proper degree of moisture. The window or windows should be opened for an inch or two at the top, to insure proper ventilation, although care should be taken to avoid draughts. The bed-coverings should be light, and the patient should be well wrapped up, if, from any cause, it is necessary to get out of bed. With the prevalence of a high temperature it is of little or no use trying to give solid food. The diet should consist chiefly of milk, of which from two to three pints, or even more, should be given in the course of the day. Many people find that milk is not only more palatable, but is more readily digested, if flavoured with just a dash of brandy, although anything like excess in the administration of stimulants is to be avoided. It is not a bad plan to dilute the milk with an equal quantity of lime water or soda water. There is no objection to a sponge cake or two, or a few biscuits. Beef tea may be taken once or twice a day, although it is less nutritious than is generally supposed. Should the bowels be confined, a simple aperient, such as castor oil, may be given, but it is well to avoid anything like active purgation. Large linseed-meal poultices applied over the chest and back, and renewed every two hours, or as often as they get cold, prove very grateful. Moderate quantities of wine, or brandy, somewhat in accordance with the patient's ordinary habits, may be given, should signs of weakness become apparent. Ice to suck, and frequent sips of cold water, are useful in allaying thirst.

In quite the early stage, aconite is useful in this as in so many other febrile diseases. A drop of the tincture should be given every ten minutes for the first hour, and subsequently hourly for ten or twelve hours; or Pr. 38 may be employed. It is most suitable for the first invasion of the cold when feverish symptoms, restlessness, *malaise*, pain between the shoulders or in the chest, and short cough are the prominent symptoms. A little later, or when the symptoms are more severe, phosphorus is preferred by many. It is considered to be of most value when there are signs of exhaustion. A saturated solution of phosphorus in ether (Pr. 53) may be used, and of this a drop or half a drop may be given every hour for ten or twelve hours. It is not unfrequently administered alternately with aconite—first a dose of one, and then of the other. When the symptoms point to pleurisy as well as pneumonia, bryony

(Pr. 49) proves useful. Dry cough, with little expectoration and stitching or catching pains in the chest, are generally considered to be indications for its administration. Of late years antimony has been much employed in pneumonia, and respecting its value there appears to be a general concurrence of opinion. In many cases, under the influence of this drug, the pain in the side gives way, the expectoration, from being characteristic of pneumonia, changes to that met with in bronchitis; the pulse and breathing are reduced in frequency, and the further spread of the inflammation is checked. To be of much service, it should be given quite at the commencement of the disease, and it is essential that the dose should be small and frequently repeated. A grain of tartarated antimony (tartar emetic) should be dissolved in half a pint of water, and of this one or two tea-spoonfuls should be given every ten minutes or quarter of an hour for the first hour, and afterwards hourly (Pr. 46). Should nausea or sickness be induced, the dose must be lessened. Antimony wine, given in doses of two or three drops in a tea-spoonful of water, will succeed equally well. These are both pharmacopœial preparations, and may be obtained without difficulty.

We can only conclude with the recommendation to obtain medical assistance whenever possible.

MEASLES.—(See DISEASES OF CHILDREN, p. 25.)

MEGRIM, OR SICK-HEADACHE.

When speaking of headache generally, we pointed out that this especial form was of such importance as to merit a separate and more detailed consideration. There are several varieties of megrim—or migraine, as the French call it—which are known as hemicrania, blind-headache, and bilious-headache. We cannot convey a better idea of the general features of this distressing complaint than by giving an example. An eminent French physiologist and man of science has recorded his own case, which affords a good illustration of one of the simpler forms of migraine. He tells, that since about his twentieth year, though otherwise in good health, he has suffered from this complaint. Every three or four weeks he has an attack coming on, for the most part in consequence of some unhealthy influence, such as long and fatiguing evening entertainments, and so on. As a rule some constipation precedes it. The next morning he awakes with a general feeling of disorder, and a slight pain in the region of the right temple, which, without overstepping the middle line, gradually extends itself, reaching its greatest intensity at mid-day; towards evening it gradually passes off. While at rest the pain is tolerable, but it is increased by movement to an extreme degree, and it is aggravated by stooping or coughing. The countenance is pale and sunken, and the right eye small and reddened. At the height of the attack, when it is a violent one, there is nausea, but it rarely culminates in vomiting. As the fit approaches its termination the right ear reddens and becomes very hot. Sleep often shortens the attack, which leaves behind it slight stomach disturbance; frequently also the scalp remains tender at one spot the following morning. For a certain period after a seizure he

can expose himself with impunity to certain injurious influences which before would have brought on the migraine to a certainty.

This, as we have said, is a very simple form of the malady, and in the majority of cases the phenomena are much more severe. Very frequently the pain continues to increase from the moment of onset until it is almost unendurable, and the patient seems almost as if he would go out of his mind. This is often accompanied by an intolerable sense of nausea, and sooner or later by repeated vomiting. The condition is at this time one of great misery and depression, the suffering closely resembling that of a person thoroughly sea-sick. The attack is often accompanied by affections of sight and other phenomena which will subsequently occupy our attention.

Megrim undoubtedly occurs more frequently in women than in men; or, at all events, women apply for relief more frequently than men. The first attack often makes its appearance at the age of seven or eight, or it may be earlier. The age at which the second teeth are cut appears to be especially favourable for its onset. It is not uncommon for women to tell us that the headaches first came on about the age of thirteen or fourteen, "when the periods began." Even in those cases in which the attacks commenced early, and have persisted in a severe form throughout the greater part of life, they are generally found to abate when the patient attains the age of fifty or thereabouts, and they usually cease completely before the onset of old age. It is rare to meet with this malady in old people, and often the attacks appear to reach a maximum of severity about the age of thirty, after which they gradually decline in frequency. In women the seizures may become more severe about the change of life, and diminish again when the critical period has passed. Megrim is in a large number of cases hereditary, and nothing is more common than for the patient to assure you that it is "a family complaint." In one instance with which we are acquainted, the mother and all four daughters suffer from headache. There seems to be in these cases some inherited condition of the nervous system which favours the development of megrim. Sometimes, however, the children do not suffer from the same nervous affection as the parent, but from some allied disorder. For instance, one member of the family may have megrim, a second may be the victim of neuralgia, a third may be subject to fits, a fourth may be a hay-asthmatic, and so on.

Sick-headache is essentially a paroxysmal or intermittent affection. The malady, it is true, is permanent, and may last a lifetime—we know of a case where it has lasted twenty-nine years—but it is only manifested at more or less distant intervals, in distinct attacks or seizures of well-defined character and limited duration, the sufferer, as a rule, enjoying good health in the intervals. The duration of the paroxysm is in different cases very variable, although, in the same individual, it is pretty constant. In some people it lasts only three or four hours, in others seven or eight, whilst it is not uncommon for it to last the whole of the day. We should say that the average duration was from six to twelve hours. In exceptional cases the suffering continues for two or three days, during which it ebbs and flows, the patient recovering a little, then getting worse again, and so on. A lady recently under treatment assured us that on one occasion she had an attack lasting almost continuously for over a month. The seizures

usually subside gradually, generally terminating at night. With some people—a limited number, unfortunately—a very short sleep, say of half an hour's duration, will completely dissipate an attack. Sometimes relief is afforded by vomiting, or by an unexpected action of the bowels, but this is somewhat exceptional. The abrupt transition from intense suffering to perfect health in this malady is very remarkable. "A young woman in the enjoyment of otherwise excellent health, well-nourished, cheerful and active, the life, perhaps, of her family circle, appears in the morning, once in every two or three weeks, a perfectly altered being, with a pale, inanimate face, dull, lustreless eyes, and with all her usual cheerfulness departed, and so remains throughout the day in a state of chronic nausea, and corresponding mental and bodily dejection, to which use alone has made her resigned; and yet the following morning she will be her former self again, as if nothing had occurred; and thus she may continue to live two distinct lives, as it were, perhaps for a long series of years."

The duration of the interval or period of freedom is also variable in different cases, though there is some approach to regularity in the same individual. Some people have an attack every fortnight, others every month or two months, and so on. With many women sick headache recurs at every monthly period, with some commencing a day or two before, and in others following it. The attack, however, seldom returns with the same regularity as does, for example, a fit of ague. In ague the patient can often tell almost to a certainty when the seizure will occur, but in megrim all he knows is that should he exceed his usual time he is not likely to remain free for many days. After an attack the patient usually feels certain that he will not be troubled for some time to come. Curiously enough a sort of compensation is sometimes observed between the severity of a seizure, and the degree of immunity which precedes or follows it. Many people are not anxious for long intervals between their attacks, for they recognise the fact that they have a certain amount of suffering to go through, however it may be broken up or divided, and they would as soon have it regularly as not. In the majority of cases the exact time of the onset of an attack is determined by some apparently trivial circumstance—such, for instance, as a little indigestion or even confined bowels. Some articles of food are especially likely to bring it on, and among those most commonly credited with this property are butter, fat, spices, and alcohol in any form. One gentleman, the subject of megrim, says that for over thirty years he has not been able to take the smallest quantity of wine, not even the sacramental wine, without suffering from an attack. A patient, a woman, now under treatment, tells us that with her certain kinds of food are sure to bring it on. It is positive to come on after pastry, or pork, or bacon, or veal. Even the smell of pork cooking is quite enough. Mutton is almost the only kind of meat that will not bring it on, and even then it must be a very nice little piece. If she cannot get mutton she prefers going without anything. Eggs do not induce it, as a rule, nor does fruit.

Mental emotion and exertion are among the most influential of the occasional exciting causes of the megrim. One of our patients assures us that an attack is infallibly caused by worry or excitement, or emotion of any kind. Even "doing about the house," she says, will bring it on. She has known it come on immediately

when she has just been a bit startled by seeing her little girl fall down, although it was really nothing, and was all over in a minute. The excitement of any one calling on her will often induce an attack, and on this account she never receives a visitor, if she can possibly help it. She likes to be by herself, and "has no mind for company." For years she has been unable to go to any place of amusement. She remembers that even when she was quite a girl any preparation for a day's outing would be sure to bring on an attack, so she never went anywhere, not even out to tea. Going by train or omnibus, or even by the boat, would bring it on. At one time she tried to attend at a hospital as an out-patient, but all the good the doctor did her with his medicine was undone again by the excitement of having to go by the omnibus, so that instead of getting better she got worse. The idea of having to make haste to go anywhere, or having to be anywhere at a certain time, would upset her for days.

Many women, as we have seen, always suffer from megrim at the monthly periods. In one instance the patient became irregular, and menstruated at intervals of a fortnight, and then the attacks followed suit. Often there is a suspension of the attacks during pregnancy, but this is not always the case, and some women suffer from them excessively when in the family way.

Prolonged abstinence from food will often excite megrim. Many people say they suffer from it directly they feel "leer." The delay of half an hour beyond the accustomed time for taking food is with them quite sufficient. In many the transition from sleeping to waking determines the time of the attack. In the patient to whom we have referred, the attack frequently comes on in the middle of the night, during sleep, and this is very likely to be the case when she has over-exerted herself on the previous day.

Attention has been drawn by several writers to the influence which any circumstance tending to tax or try the eyesight has in determining megrim. The case is recorded of a physician, the victim of this malady, who could at any time immediately induce it by attempting to read on a full stomach. In another instance the paroxysm was always excited by the incidence of strong light, or the attempt to read small print. A very curious case was that of a person who always suffered from megrim after looking at a striped wall-paper or a striped dress. In many nervous people the sense of smell is so highly developed that it becomes the occasion of migraines. Our patient informs us that her attacks are readily excited by bad smells of all kinds. The smell of a "dirty drain" would be sure to do it. The smell of beer, she says, always brings on the headache, and turns her sick in a moment. If her husband has taken a drop of beer for supper, and she "catches his breath," it is quite enough for her. Often enough she has got up in the middle of the night, and has gone and slept on the sofa in the sitting-room. Sometimes the smell of tea will bring it on, particularly if she is any way inclined to be ill. A paraffin lamp burning on the table would be sure to upset her. She does not mind nice smells—they do not affect her in any way. She likes flowers, and is not at all afraid of them. She does not like scents, but cannot say positively that they would bring on an attack—she would rather not try. These statements, it should be added, were taken down almost in her own words.

Atmospheric changes, changes of season or weather, are regarded by some as exciting causes of the seizures. Our patient is always very bad when it is frosty, particularly if there should happen to be a cold, cutting wind blowing at the same time. When at home she always goes about with her head done up in flannel. The slightest exposure to the sun would be sure to bring on an attack. She is often afraid to open the door to any one when the sun is shining, for she knows that directly it falls on her head her sufferings begin. A bright light never affects her in any way—it must be the sun. Heat, she says, is very unpleasant to her, and the heat of the fire would be sure to bring it on. She cannot even do a bit of toast without holding something in front of her to ward off the fire. Cold is with her almost as bad as heat. Any little exposure of the head to cold or draught would be sure to excite it; even going out of the kitchen into the scullery for a minute would do it.

The susceptibility to megrim is aggravated by anything tending to lower the standard of health—for example, exhausting discharges, prolonged indigestion, or disordered bowels. Mental exertion, if too close or continuous, has a similar effect—indeed, the complaint is not unfrequently developed by excessive study, coupled with a deficiency of out-door exercise.

We must now describe more fully the headache which is so conspicuous a feature of megrim. The pain presents every variety in different individuals, and sometimes in different attacks, but in the majority of cases it is for a time at least very severe. Occasionally it exhibits that intense and agonising character often met with in neuralgia. It is generally moderate when first felt, and gradually rises, sometimes very quickly, to a great pitch of intensity; this is maintained for a certain time, and then it begins to decline again. With some there seem to be something like remissions and exacerbations; the pain does not always maintain the same degree of severity throughout its course; it is often extreme for some minutes, then subsides, to return again with the same intensity. The pain may be stabbing or darting in character, but it is differently described by different people. They are all agreed, however, that when it reaches its full development it is most distressing, and very hard to bear. Most sufferers state that it is terribly aggravated by movement of any kind. When at its height, light and noise are most unbearable, and the patient is compelled to be still and keep the room as dark and quiet as possible. In exceptional cases, however, the pain may be of that intolerable character, that to keep in one position for any length of time is impossible, and the patient has to get up and move about. Sometimes the headache is limited strictly to one side, but more commonly it oversteps the median line. The pain, however, seldom affects the whole head, but one particular part of it, most commonly the forehead, over one or both eyes. Next to the brow the temple is the most common seat of the pain. In some cases it seems to be focussed on one spot, and then it is that it attains its maximum severity. In cases in which the pain has been most agonising, it has often been confined to a little spot over one eyebrow or temple. As a rule the excessive violence of the pain lasts only a few hours; mostly, however, it is not until from eight to twelve hours that the pain becomes bearable. It may be twenty-four hours or even longer before the last of the uneasiness disappears.

A certain amount of nausea is a pretty constant feature of megrim. In some cases it is slight, in others it attains a high degree of intensity, and is followed by vomiting. From the onset of the attack there is a total loss of appetite ; an aversion to every flavour, even to those which are at other times the most grateful. When actual vomiting occurs it sometimes terminates the seizure.

We have already referred to the fact that an attack of megrim is usually accompanied by some affection of the senses. One of the commonest of these is disorder of the sight, and often enough it is the first of the symptoms to make its appearance. Not uncommonly there is partial loss of sight. The patient to whom we have so frequently had occasion to refer suffers from this in a marked degree.

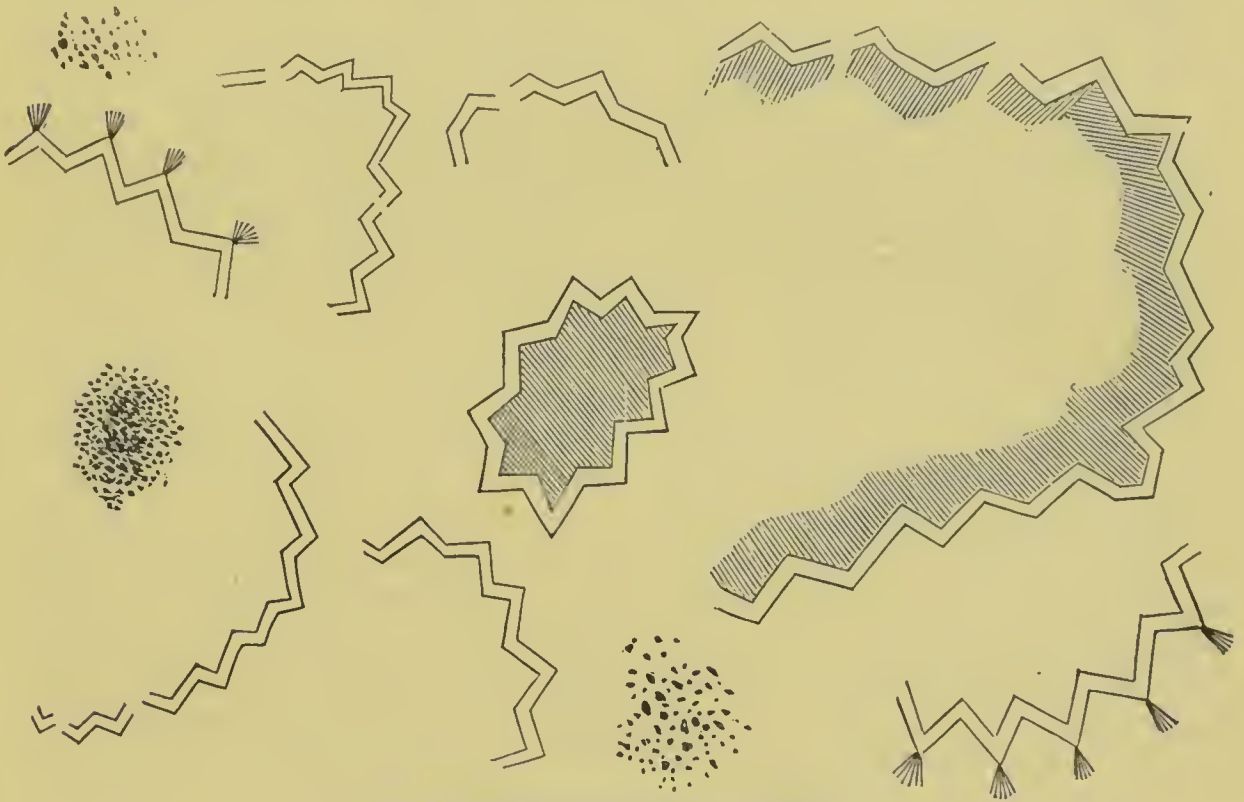


Fig. 8.—SPECTRAL APPEARANCES IN MEGRIM.

She describes it as being like a round curtain in front of her, so that she can see round it only at the sides. Many people liken it to the spot you see after having looked at the sun.

In many instances the blindness or partial blindness is accompanied by certain spectral appearances. These are developed in different degrees in different individuals ; in some they are faint and attract but little attention, in others they are so highly pronounced and sharply defined as to make a most powerful impression on the mind. In their simplest form they consist of a luminous border surrounding the black spot more or less completely, and expanding and widening as it expands. In almost every case this luminous border presents an appearance of rapid motion or oscillation ; sometimes it seems to be "glimmering," or "all alive," and some people describe "coruscations," and "showers of sparks." The luminous are depicted around the blank space is coloured with some individuals, but colourless with others.

It may be disposed in zig-zags, or may be like a fortification. Our patient tells us that before an attack comes on she often sees bright crescent moons, sometimes large and apparently close to her, and at others small, as if at a distance. Sometimes she sees specks "like little bits of smut" flying about; when making pie-crust she "keeps picking at it," fancying there are "little black things" on it. Sometimes the specks moving about seem like a cloud of flies.

Numbness and tingling of the hands and upper extremities generally are not unusual phenomena during or immediately after an attack. Sometimes it is described as being like pins and needles, at others the limbs seem to have gone to sleep. Exceptionally, the loss of sensation is accompanied by some impairment of movement, so that the grasp is less firm than it should be, and there is a danger of dropping things. It not unfrequently happens that an attack of the megrim gives rise to a certain amount of mental confusion.

In many cases drowsiness or stupor is an occasional accompaniment. It is of a most uncomfortable and oppressive character, not at all like natural and grateful sleep, but often verging on coma. It is a noteworthy circumstance that this phenomenon is not peculiar to megrim, but is occasionally met with in other nervous diseases. Thus it may attend the progress of asthma, and is of common occurrence after epileptic fits.

The usual termination of an attack of megrim is in sleep not the lethargic condition which sometimes attends the development of the seizure, but a natural and refreshing sleep. This terminal sleep is probably the natural consequence of the exhaustion of the brain resulting from the unnatural state of activity through which it has passed, being similar to that which follows long sight-seeing or other exhaustive occupation of the senses. Sometimes sleep at any period of the attack will at once cut it short. Thus the case is related of a gardener, who, if seized with megrim when at work, would stretch himself out under a tree, go to sleep for half an hour, and then awake well. Sometimes the attacks end in vomiting, and not in sleep. Many people say that if they are not sick their attacks are prolonged, and hang about for days together. Guided by their experience, they often do their best to assist nature, and resort to artificial means. More rarely an attack ends in a copious flow of tears, a large secretion of urine, profuse perspiration, or an evacuation of the bowels. Sometimes the pain and other symptoms gradually subside without the occurrence of sleep, vomiting, or any other form of crisis.

In some curious cases the attack of megrim assumes an irregular form, the headache being but slightly developed, or being entirely obscured by the intensity of the mental phenomena. This affords an explanation of many anomalous seizures, such, for example, as the following, described by an eminent divine and literary character:—"I was this morning engaged," he says, "with a great number of people, who followed each other quickly, and to each of whom I was obliged to give my attention. I was also under the necessity of writing much, but the subjects, which were various and of a trivial and uninteresting nature, had no connection the one with the other. My attention, therefore, was constantly kept on the stretch, and was continually shifting from one subject to another. At last it became necessary that I should write a receipt for some money I had received

on account of the poor. I seated myself and wrote the first two words, but in a moment found that I was incapable of proceeding, for I could not recollect the words which belonged to the ideas that were present in my mind. I strained my attention as much as possible, and tried to write one letter slowly after the others, always having an eye to the preceding one, in order to observe whether they had the usual relationship to each other; but I remarked, and said to myself at the time, that the characters I was writing were not those which I wished to write, and yet I could not discover where the fault lay. I therefore desired, and partly by broken words and syllables and partly by gestures, I made the person who waited for the receipt understand that he should leave me. For about half an hour there reigned a kind of tumultuary disorder in my senses, in which I was incapable of remarking anything very particular, except that one series of ideas forced themselves involuntarily on my mind. The trifling nature of these thoughts I was perfectly aware of, and was also conscious that I made several efforts to get rid of them, and supply their place by better ones, which lay at the bottom of my soul. My soul was as little master of the organs of speech as it had been before of my hand in writing. Thank God, this state did not continue very long, for in about half an hour my head began to grow clearer, the strange and tiresome ideas became less vivid and less turbulent, and I could command my own thoughts with less interruption.

"I now wished to ring for my servant, and desire him to inform my wife to come to me; but I found it still necessary to wait a little longer, to exercise myself in the right pronunciation of the few words I had to say; and the first half-hour's conversation I had with her was, on my part, preserved with a slow and anxious circumspection, until at last I gradually found myself as clear and serene as in the beginning of the day. All that remained was now a slight headache. I recollected the receipt I had begun to write, and in which I knew I had blundered; and upon examining it I observed to my great astonishment, that instead of the words 'Fifty dollars, being one half-year's rate,' which I ought to have written, the words were 'Fifty dollars, through the salvation of Bra—,' with a break after it, for the word 'Bra—' was at the end of the line." This case is so unlike the usual run of cases of megrim, that it might readily be mistaken for something more serious.

Let us now briefly discuss the position of megrim in the classification of diseases. To what affections is it most closely allied? Obviously its most intimate relations are with other paroxysmal nervous diseases, such as epilepsy, asthma, angina pectoris, and neuralgia, and these together form a very natural group. They are all affections which are more or less persistent, the principal phenomena by which they are characterised being, however, discontinuous or intermittent, consisting of paroxysms recurring at variable intervals. Moreover, the tendency to these complaints appears in the great majority of cases to be innate and hereditary, being handed down from parents to children, or from grandparents to grandchildren. Not unfrequently the parent suffers from one member of this group, whilst his offspring suffer from others. For example, a predisposition to epilepsy will sometimes appear in some individuals of a family, whilst their nearest relatives are affected by other maladies of the same class. Another remarkable fact is that these different varieties of nervous affection have each their own particular period of

life at which they are manifested. We have already seen that angina pectoris rarely occurs in young people, whilst megrim is seldom met with after the age of forty-five or fifty. In all these paroxysmal diseases it should be noticed that during each attack the symptoms gradually increase in severity, reach a culminating point, and then decline. Another feature common to the paroxysms of these several nervous affections is their periodical return; not an exact periodicity, it is true, but a rough approximation to regular recurrence, as if the result of a gradually accumulating tension.

Intimately connected with this periodicity is a kind of compensation, observable in many of these affections. There is obviously some relation between the time of exemption and the violence of the succeeding attack, a longer interval being followed by a more severe seizure, or an unusually severe seizure by a longer exemption. The exciting causes of many of these nervous outbreaks are strikingly similar. We have already seen that muscular exertion will determine the occurrence of megrim with many patients, and the same is the case with epilepsy, and especially with angina pectoris. Indigestion is a very frequent exciting cause of a fit of asthma—in fact, one of the commonest varieties of asthma is called “peptic” asthma, the attacks being controlled entirely by the state of the digestive organs. We have already referred at some length to the influence of certain kinds of food in inducing sick-headache. The transition from sleeping to waking is singularly influential in determining the occurrence of many of these seizures. Passion and mental emotion are especially efficacious in determining attacks of asthma and angina pectoris, as they are in exciting megrim. The influence of prolonged fasting or exhaustion is also worth bearing in mind. We think the evidence we have adduced will be regarded as affording a conclusive proof that megrim belongs to the same family group of diseases as do asthma, angina pectoris, epilepsy, and neuralgia. If further evidence were wanted it would be found in the fact that in the same individual one form of seizure is often replaced temporarily, or it may be permanently, by another. For example, epilepsy and asthma are occasionally observed to be interchangeable affections, and in illustration of this the following case is related:—“The patient was a man about fifty years of age, subject to epilepsy. His fits had certain well-known premonitory symptoms, and occurred with tolerable regularity about once a fortnight. On one occasion his medical attendant was sent for in haste, and found him suffering from violent asthma. The account given by his friends was that at the usual time at which he had expected the fit he had experienced the accustomed premonitory symptoms, but instead of these being followed as usual by convulsions, the shortness of breath had come on. Within a few hours this passed off, and left him as well as usual. At the expiration of the accustomed interval after this attack the ordinary premonitory symptoms and the usual epileptic fit occurred. On several occasions this was repeated, the epileptic seizure being, as it were, supplanted by the asthmatic.”

And what, it may be said, is the real cause of megrim? What is it due to? Is it an affection of the liver, or the spleen, or the stomach, or what? This is a question by no means easy to answer, although it is a subject that has occupied the best energies of some of the foremost physiologists and pathologists, not only of this, but we may say of almost every age. It would be wearisome even to enumerate the

different theories that have been brought forward, much less to cite the various arguments adduced in their support. Let it suffice to say that nowadays no one believes that sick-headache is merely a bilious complaint, or even that it has anything to do with bile, and that the general opinion is that the real seat of the disease is in the brain.

Let us now consider what can be done in the way of treatment. There appears to be a very prevalent opinion that megrim is a complaint in which it is of no use trying to do anything—an opinion with which we venture to disagree, for we must confess that we have an almost unlimited faith in the power of medicines—that is, of medicines properly used.

Of course something can be done in the way of general treatment—hygienic measures and so on. The patient may have to be instructed what to eat and what to drink, and still more important, what to avoid. Megrim is of constant occurrence in those who are weakened by a poor and insufficient diet, by too frequent child-bearing, and a prolonged suckling. It often arises from excessive hours of labour, or occupations which entail close confinement in unwholesome and ill-ventilated workshops and dwellings. The treatment of these cases is obvious, however difficult to fulfil. The workman may not be able to induce his employer to get him a light well-ventilated shop to work in, but knowing the value of fresh air he will pass as much of his leisure time as possible out of doors. Women often ruin their health by suckling their children for twelve, fifteen, or eighteen months. With town-dwellers the baby should be weaned at the latest when nine months old. The poor should remember that if they have large families they must make an extra effort to provide for them. In a somewhat higher grade of society we find the malady brought on, or at all events aggravated, by excessive brain-work, with a deficiency of bodily exercise, short restless nights, and insufficient sleep.

So long as a brain-worker is able to sleep well, to eat well, and to take a fair proportion of out-door exercise, it is not necessary to impose any special limits on the actual number of hours he devotes to his labours. But when what is generally known as worry steps in to complicate matters, when cares connected with family arrangements, or with those numerous personal details which we can seldom escape, intervene, or when the daily occupation of life is in itself a fertile source of anxiety, then we find one or other of these three safeguards broken down. Probably the man of business or the successful lawyer fails to shake himself free from his anxieties at night, and slumber becomes fitful or disturbed. The nervous system, unsettled by the mental strain, brings about various defects in nutrition; the appetite fails, and then we meet with the sleeplessness, the dyspepsia, the irresolution, the irritability, and the depression which are the chief miseries of the over-worked. The great thing in these cases is to get a rest at any cost. By rest we do not mean doing nothing, but rather change of scene, of thought, and occupation. If you tell a busy man that he must do nothing, he may endeavour to obey you, but he will soon find out that he cannot, for his brain keeps on working in the same old groove, and he is as much, or even more, worried about his business as if he were still in the thick of it. The great thing is to get a rest by substituting one kind of work by another, to have for a time a nice comfortable sort of occupation to replace

the old weary round of troubles. One of the most important remedial agents is outdoor life and exercise, which may be taken in any form most congenial to the individual—riding, walking, field sports, or what not. This is at once the most natural, and often the most effectual promoter of sleep we can employ. Active bodily exertion is well known to be incompatible with the maximum of intellectual work, and full advantage should be taken of this fact. The only thing to avoid is excessive fatigue. It is a remarkable fact that a very large number of distinguished literary and scientific men have suffered severely from megrim, and it would seem that some of them have succeeded in ridding themselves of the malady by the adoption of some simple hygienic measure. One, for instance, cured himself by following the prescription of a farrier, who advised him to drink water, eat little, and take exercise. Another was cured by drinking every day a large quantity of fresh water, and exchanging a highly nutritious regimen for a much lighter dietary. A third got rid of his old enemy by the same means, and by taking exercise every day before dinner. There can be no doubt that in many cases great benefit would be derived from a thorough change of locality or climate. Long sea-voyages are not unfrequently attended with excellent results, the attacks being absent for months at a time. Unfortunately these are remedies not within the reach of all.

Now as regards diet. In cases of megrim in any degree dependent on or associated with indigestion, the meals should be moderate and regular, with a simple and nutritious dietary, especial care being taken to avoid all articles of food that are notoriously unwholesome, or are known to disagree. The great thing is to live plainly. As a rule it will be found that beef and mutton digest more readily than veal or pork. When indigestion is a prominent symptom, it will have to be treated according to the rules already given (*see* INDIGESTION). Vegetable bitters, such as infusion of quassia, or infusion of calumba, enjoy a high reputation for megrim depending on stomach derangement. The gentian and soda mixture (Pr. 14) may be used for a similar purpose. As a rule it should be taken about half an hour before meals, but when acidity is a prominent symptom it should be taken about the same time after meals. It is in all cases important to regulate the bowels, for nothing goes right when they are confined. When the patient is pale and anæmic, and is evidently suffering from poorness of blood, iron is the best remedy, and other measures will in all probability fail until it has been supplied. It may be given in the form of pills (Pr. 63), or one of the iron mixtures (Pr. 1 or 2) may be resorted to. Cod-liver oil will do much to improve the general nutrition, but sufferers from megrim often experience great difficulty in taking it. It is well worth trying, however. Pancreatic emulsion may in some cases prove useful.

We now pass on to the consideration of what may be called the specific remedies for megrim. It is difficult to say positively what drug will succeed in any individual case. The patient should never despair of being cured, or at all events very materially benefited, till he has tried them all.

Croton chloral is a valuable remedy in this complaint. It should be given in five-grain doses, dissolved in water, every three hours for a week or two. This is a moderate dose, and ten grains can be taken at a dose without inconvenience. We have employed it in many cases with success. We usually prescribe it only in the

milder forms, and when sickness is not a prominent symptom. It is extremely efficacious in relieving the slight attacks many delicate and nervous women experience after fatigue or excitement.

Cannabis indica, or Indian hemp, is another valuable remedy. It is found serviceable, both in cases with little or no nausea, and in cases accompanied by severe vomiting. It is useful in attacks accompanied by spectra, and is especially effective when, from fatigue, anxiety, or change of life, the attacks are becoming more frequent. A third of a grain of extract of Indian hemp should be taken twice or thrice daily. This dose can be made up into a pill by any chemist. It is a pharmacopœial remedy, and it may be taken for a month or more without any fear of ill effects. Should the dose we have recommended fail to do good, it may be increased to half a grain twice or thrice daily (Pr. 67). It is one of the best remedies we have for megrim, and its use should not be discarded without a fair trial.

Of the use of valerianate of zinc we have already spoken when dealing with the subject of headache generally (*see* HEADACHE).

Guarana, or Brazilian cocoa, has been somewhat extensively used during the last five or six years in the treatment of sick-headache. It consists of the powdered seeds of *Paullinia sorbilis*, and is usually given in fifteen-grain doses. One of these powders should be taken every night, and on the occurrence of an attack, every three hours. It is especially recommended when the pain is confined to the right side. It is a little bit uncertain in its action, but it sometimes acts quite like a charm. Guarana belongs to the same botanical family as tea and coffee, and the active principle of the latter—caffeine—has been used successfully in the treatment of sick-headache.

Iodide of potassium is a remedy often employed with success in these cases. It is especially indicated in any case in which there is a syphilitic taint, but even when there is nothing of the kind it often succeeds admirably. Two table-spoonfuls of the mixture (Pr. 32) should be taken three times a day for a week or more.

Bromide of potassium is most likely to succeed in women exhibiting a marked hysterical tendency, or in those who have some derangement of the womb. Two or three table-spoonfuls of the mixture (Pr. 31) should be taken three times a day, for at least a fortnight.

Chloride of ammonium not unfrequently does good. The dose is from thirty to forty grains three or four times a day, and it is best given in milk. The great point is to take plenty of it, for small doses seldom do any good. Should it not succeed quickly it will probably not succeed at all.

Common salt has been recommended, but we have had no experience of its use. An author of repute says:—"I will only mention as a contribution from my own experience of such cases, that long periods of exemption from returns of their headaches have occurred to patients who have faithfully observed my directions that they should drink a tumbler of common salt and water every morning an hour before breakfast." It is curious that so simple a remedy should not have come into more general use. We suppose the fact is that patients who consult a physician for their ailments expect to have some more potent remedy prescribed

for them than common salt. Many people value a drug and estimate the good it does them by its rarity, or the price they pay for it—a very pernicious principle.

Nux Vomica (Pr. 44) will sometimes be found useful, especially when the stomach symptoms predominate. Small doses of carbolic acid are sometimes used. A tincture made from the *Iris versicolor*, or common blue-flag, has proved successful; it is said to be indicated when the headache is preceded by a film before the eyes. A small piece of aconitia or veratria ointment, rubbed into the forehead quite at the commencement of an attack, will sometimes cut it short (*see NEURALGIA*). An ever popular remedy is blue-pill. Friedrichshall water often does good.

Next as to the treatment during an attack. As the suffering in megrim is greatly aggravated by every form of motion and muscular exertion, and is relieved by recumbency and quiet, the patient from the commencement should retire to a darkened room, as far from noise and disturbance as possible, and, lying down, should endeavour to maintain the position that appears to be most comfortable. If he can succeed in falling off to sleep the attack may be cut short, and in any case the suffering will be less than if he had attempted to keep about. Many doctors recommend that the position should be a slight incline, with the head highest; and this position may undoubtedly be adopted with advantage when there is throbbing or pulsation of the head. Should there be chilliness, a plentiful supply of blankets and a hot-water bottle to the feet will probably do good. A diffusible stimulant, such as a stiff glass of brandy-and-water, given quite at the commencement, will sometimes cut short the attack. A dose of bromide of potassium—three or four table-spoonfuls of the mixture—will often induce sleep and quickly afford relief, but not unfrequently it fails. Sometimes a dose of bicarbonate of potash has a similar effect. A cup of strong tea or coffee often prevents a threatened megrim seizure, especially if the patient can remain quiet for a time. A gentleman informs us that he obtains greater relief from a bottle of soda water, in which a lemon has been squeezed, than from anything. Should it fail, he takes another after a short interval. A dose of guarana may do good, but, as we have said, it is somewhat uncertain in its action. Some people resort to an emetic, and a patient of ours always endeavours to make herself sick by thrusting her fingers down her throat; but it is not the pleasantest of remedies. The inhalation of a little chloroform or ether from a handkerchief or piece of lint may afford temporary relief, but it is not a measure one is justified in resorting to without the presence of another person. Nitrite of amyl has been employed as an inhalation with success. It is to be used in the manner indicated when speaking of angina pectoris (*see ANGINA PECTORIS*). When the pain is limited to one side, keeping up pressure on the head with the hand, or rubbing the forehead often does good. Many people obtain relief by plunging the head into cold water, or tying a damp towel round the head. Others advise that in addition mustard plasters should be applied to the calves of the leg. It must be confessed that often enough these measures do little or no good, and many people will be found to endorse the following opinion:—"During the paroxysm there is scarcely anything to be done; moreover, the patients are so much afraid of all noise, motion,

or anything approaching them, that they infinitely prefer to be left perfectly quiet, than tormented with useless measures."

NERVOUSNESS.

For information on this subject and on NERVOUS DEBILITY, the articles ANÆMIA, p. 92, and DEBILITY, p. 207, may be consulted.

NEURALGIA.

In neuralgia, of whatever form, the pain is more or less intermittent. The patient never suffers from it continuously with equal severity; there are times when it is either considerably better or altogether absent, and this is an essential feature of the complaint.

Another characteristic is that depressing influences of all kinds favour the induction of an attack of acute pain, and distinctly aggravate it when already existent.

In the vast majority of cases neuralgia arises by itself, as we say—that is, as the result of constitutional causes; but in exceptional instances it has a mechanical origin, and of this we will adduce an example. A sailor was wounded by a musket-ball in the arm. The wound healed; but the patient remained affected with agonising pain, beginning in the tips of the thumb and fingers, except the little finger, and extending up the fore-arm. His sufferings were so great that he willingly submitted to have the limb amputated; and the operation gave him complete and immediate relief. When the severed limb was dissected a small portion of lead, which doubtless had been detached from the ball when it struck against the bone, was found embedded in the substance of one of the nerves. Neuralgia may be produced by a shock, such as results from a bad fall or a railway accident, or even by severe mental emotion acting on a delicate organism. Under these circumstances the development of the affection seldom occurs at once, but ensues after a variable interval, during which the patient exhibits symptoms of general depression, with perhaps loss of appetite and strength. When once fully developed, there is nothing to distinguish this from the more ordinary forms which result from purely constitutional disturbance. Sometimes a cut, which perchance has severed a nerve, may be the starting-point of neuralgia. In one case paroxysms of excruciating pain in the little finger followed a gash with a tolerably sharp bread-knife at a point a little above the wrist. These attacks recurred for more than a month, long after the original wound had completely healed. Curiously enough, injury to a nerve may set up neuralgia in quite a different part of the body, and the removal of a small piece of glass from the cicatrix of an old wound has been known to cure neuralgia in a distant situation, for which remedies had long been tried in vain.

Neuralgia sometimes arises as the result of ague, and in this country this variety was formerly far more prevalent than at present. We often meet with it in people who have suffered from ague abroad. The term "brow ague," is to this day applied by many to that variety of neuralgia which is experienced just over

one or other eyebrow. The fact of the attacks coming on at regular intervals is one of the great characteristics of neuralgia really resulting from ague.

Neuralgia is seldom met with in young children, but not unfrequently it makes its appearance about the age of fourteen. Usually, however, it comes on later, between the ages of twenty-five and forty-five. It is at this time that the individual is subjected to the greatest strain from external circumstances. A man, if poor, is engaged in the absorbing struggle for existence, in the endeavour to maintain his wife and family, or if rich and idle he is immersed in dissipation or haunted by the mental disgust generated by *ennui*. A woman, if married, is going through the exhausting process of child-bearing, or if single is probably idle and weary with waiting, fearing lest she should lose her chance of fulfilling those duties which so essentially constitute her mission in life. Sometimes neuralgia makes its first appearance when the race of life is well-nigh run, and indications of physical decay are already making themselves apparent.

Neuralgic pains may occur in any part of the body, but they are met with most frequently about the head and face. One variety of neuralgia of the head is more or less familiar to us all under the name of "tic" or "tic douloureux." Neuralgic pains are usually suspended during sleep. The tic, for example, may keep the sufferer awake for hours and hours, but once asleep his slumber is likely to remain undisturbed. Sometimes the pain is experienced chiefly in the region of the lower jaw, and then it usually affects the lips, the teeth, the chin, and it may be even one side of the tongue. Curiously enough the pain is usually strictly limited to one side, often stopping abruptly in the middle line. The paroxysms of suffering in this frightful disease are apt to be induced by the most trivial causes; a sudden jar, a current of cold air blowing on the face, a slight touch, or even the mere mention of the malady, may be sufficient to excite it. The necessary movements of the face in speaking or eating may bring on the pain, and the patient is in constant dread of a visit from his enemy. Often enough neuralgia is associated with toothache, and still more frequently a decayed tooth, or long-forgotten stump, although not itself painful, is found on examination to be the exciting cause. Wonderful instances of the cure of long persistent neuralgia are attributable to the dentist's art. In one case, and this is but one of many, attacks of agonising pain coursing along one half of the jaw were at once arrested by stopping a hollow molar on that side.

The pain of some forms of neuralgia is agonising, and it has been supposed by many that it is the most severe the human frame is capable of suffering. Usually it comes on in sudden twinges, which are very characteristic of the complaint. Some people compare it to an electric shock of great intensity, others to the conflagration of gunpowder, or to the explosive violence of fulminating powder whilst others declare that it is simply indescribable. A well-known physician, now dead, is reported to have stamped out the bottom of his carriage during a paroxysm, and another member of the medical profession was induced by the excessive agony to make deep cuts into his face and then to apply a red-hot iron to the wound, and the pain not being mitigated, he several times attempted suicide. Even in comparatively mild cases the patient often on the instant

of the attack becomes fixed like a statue, fearing to move a muscle or a limb, lest he should aggravate the pain or reproduce the seizure.

One of the commonest forms of neuralgia of the limbs is that which is experienced in the little finger and the contiguous side of the next finger. Often enough it extends downwards from behind the elbow to that spot. The nerve affected in these cases is the "ulnar," a blow on which gives rise to that peculiar sensation experienced on striking what we call the "funny-bone," which is in reality nothing but this nerve. This form of neuralgia is often kept up and revived when apparently dying out by muscular movement. In the case of a lady, a highly accomplished musician, pianoforte-playing had to be abandoned on this account, the slightest exertion with the hands infallibly bringing on an attack of pain.

Neuralgia of the side is by no means an uncommon affection, and it is frequently one involving much suffering. A variety not uncommonly met with is the pain beneath the left breast, which women with neuralgic tendencies so often experience, chiefly as the result of over-suckling, combined, perhaps, with some menstrual irregularity. Neuralgia of the side is not uncommonly associated with shingles, and an attack of shingles often leaves behind it for some time a legacy of neuralgic pains. It is important to distinguish neuralgia of the side from the purely muscular affection to which the term myalgia has been applied (*see MYALGIA*). Neuralgia is non-dependent, or much less dependent than myalgia, on excessive or long-continued muscular exertion. Moreover, there is marked intermittence in the neuralgic affection, the pains not being constant, but only occasional.

A curious fact in connection with neuralgia of the face is, that after a severe attack the hair on that side of the head often turns grey, the colour being after a time gradually restored to its original tint. This may at first seem difficult of belief, but it is true, and has been observed in many instances.

With regard to the duration of neuralgia we must say a word or two. Some cases run an acute course, lasting only a few days or weeks, the disease terminating after a short series of more or less violent paroxysms. In other cases the disease is chronic, lasting for weeks and months, and even, if the successive and frequent relapses be included, for years. In exceptional instances, neuralgia is persistent throughout life, though with intermissions of longer or shorter duration, and with considerable variations in intensity. On the whole it may be stated that the majority of cases terminate in complete recovery.

Let us now consider what steps may be taken to ward off neuralgia in those who are constitutionally or hereditarily predisposed to it. Much may be done to prevent the development of the affection by timely care and attention. Good diet is of primary importance. It should be abundant, and should include a fair allowance of meat, bread, eggs, and especially milk, given in conjunction with cod-liver oil, and no apprehension need be entertained of its proving too stimulating. Regular and systematic exercise is an invaluable adjunct to good feeding, powerfully contributing as it does to the strengthening of the nervous system. Exercise, in whatever form it may be taken, should not be excessive, and should be alternated with a due proportion of rest. A sufficient amount of sleep, especially during the period of youth

and development, is very essential, and for growing boys and girls nine or ten hours is not too much. A good portion of the day should be passed in the open air, and close, badly ventilated school-rooms are to be sedulously avoided. The dull, heavy headache from which children often suffer after prolonged study not unfrequently ends in neuralgia. In the warmer months of the year, it is a capital plan to make children learn their lessons out in the fresh air or in a summer-house. Of course in many cases this is impossible, but with people living in the country and having a garden, however small, it might be done without the slightest trouble, and it is a little point well worth attending to. No stimulants of any kind should be taken either in the form of tea, coffee, or spirituous liquors. Milk is a capital drink for young people, and what can be better than a draught of pure spring water—if you can get it. The cold bath, or sea or river bathing, will do much to ward off that condition of general debility which is so favourable to the development of all neuralgic affections. The greatest attention must be paid to the mental and physical development, but there should be no superfluous loading of the mind with useless knowledge. Young people should be led to devote themselves to earnest, systematic, and yet interesting study. No cultivation of vanity or ambition should be permitted; there should be no attendance on frivolous or vicious theatrical performances, but the great aim should be a true devotion to poetry, music, and art. Excessive reading of trashy novels is one of the conditions most favourable to the development of neuralgia. The increasing precocity of boys and girls, in their familiarity with the most objectionable aspects of passion and intrigue, is steadily fed, in the present day, by a system that only too frequently allows unlimited access to literature which is at once devoid of all true literary and artistic merit, and replete with sensational incidents of the most pernicious character. The same degrading tendency is to be noticed in many of the most popular dramatic and public exhibitions of the day, their main characteristic being too often bad art and thinly-veiled sensuality, which is all the more hurtful for being veiled at all. As has been truly said, it would be a hundred times better that a boy, or even a girl, should study the frank, out-spoken descriptions to be found in Shakespeare or Fielding, with all their occasional coarseness, than that they should enervate their minds with the sickly trash that is most current and most popular at the present day in the theatre and circulating library.

Those who have already suffered from neuralgia and are anxious to avoid a relapse should carefully avoid all influences which are known to be hurtful, such, for instance, as exposure to cold, insufficient or indigestible food, and mental or bodily over-exertion. People engaged in business or professional work should endeavour to get a month or six weeks' holiday every summer, and should utilise it for obtaining a renewed supply of health and energy. Care should be taken to avoid mental excitement, disturbances of the digestive organs, and, speaking generally, all those injurious influences which are recognised as being favourable to the induction of a paroxysm. Avoidance of exposure to cold and wet, and to draughts of air, is especially important.

When neuralgia is fully developed these measures will have to be observed with increased care and attention. The food should be good and abundant, especially in

the case of very young or aged persons. It is advisable to give a larger supply of food than would be necessary for the maintenance of health in people not subject to this affection. Fat is of especial value when taken in conjunction with plenty of meat, milk, eggs, and bread. On this account the continued use of cod-liver oil is strongly recommended, and when it cannot be taken attempts must be made to supply its place by the free use of Devonshire cream, plain cream, butter, olive oil, or pancreatic emulsion. Unfortunately neuralgic patients have an almost insurmountable aversion to fat, and the greatest tact and patience will be required to overcome this difficulty. Many doctors find *pulsatilla* useful in removing the objection to fatty food. Wine or beer should be taken, if at all, only at meal-times, and then in the strictest moderation, anything like excess being scrupulously avoided. The advantages of uniformity of temperature are not to be overlooked, and the clothing should be carefully adapted to give protection against sudden cooling of the body or catching cold.

No treatment is likely to prove of much avail in neuralgia unless anæmia, if present, be previously removed. Poorness of the blood appears to be especially favourable to the maintenance of all neuralgic affections. The sulphate of iron pills (Pr. 63) may be given with great advantage. Another good preparation of iron is the tincture of steel, and this may be given in thirty or even forty-drop doses, well diluted with water, three times a day, about an hour after meals. The perchloride of iron mixture (Pr. 1) may be employed if preferred. A good combination is fifteen drops of tincture of steel and six drops of tincture of *nux vomica* in a wine-glassful of water three times a day. In some cases the arsenic mixture (Pr. 40) does much to improve the quality of the blood, but it is, as a rule, inferior to iron. Further directions for the treatment of anæmia will be found under that heading (*see ANÆMIA*).

One of the best remedies for neuralgia is quinine. In all cases in which there is any suspicion of ague, or when the patient is residing in a district where ague is prevalent, this is the remedy to give. It is indicated, too, when the attacks come on at regular intervals. It has long been recognised that quinine readily controls that form of neuralgia in which the pain is experienced at a spot just above one or other of the eyebrows. Quinine, to do any good in neuralgia, must be taken in fairly large doses—thus two table-spoonfuls of the strong quinine mixture (Pr. 10) should be taken every four hours. Some chemists now keep five-grain quinine pills, made up with a drop or two of syrup; and, by many, these will be preferred to the mixture; one should be taken every four hours. Quinine is said to control neuralgia and ordinary faceache more effectively when the powder is taken in small quantities every few minutes—as much, for instance, as will adhere to the tip of the finger dipped into the powder. We need hardly point out the importance of getting your quinine pure. The three great indications for the use of quinine are—(1) suspicion of ague; (2) paroxysms being periodical; (3) pain being experienced chiefly over eyebrow. In very obstinate cases of neuralgia, which have resisted all other treatment, the Germans often give what we should consider enormous doses of quinine—from forty grains to two drachms a day.

Croton chloral must take a high place as a remedy for neuralgia. It succeeds

even when the complaint is due to decayed teeth, and it will often obviate the necessity for an appeal to the dentist. It frequently cures the neuralgia of old people, in whom the complaint is generally most obstinate and severe. It will be found serviceable in neuralgia of the back of the head, and also when it affects the back of the neck, the pain radiating to the shoulders. It must be taken in five-grain doses, dissolved in water, every three hours; and should this dose fail it must be doubled. It should be given simply in water, and without anything to flavour it.

Phosphorus is another excellent remedy, and some regard it as almost a specific. It appears to be efficacious in neuralgia of any part of the body, and is admirably suited for people advanced in life. It should be given in doses of about one-twentieth of a grain every three or four hours, and it may be conveniently taken in the form of a pill, although the phosphorus pills of the pharmacopœia, from being made with wax that melts at a higher temperature than that of the body, are useless. Phosphorus capsules (Pr. 54) may be employed with advantage. The pharmacopœial phosphorated oil is a reliable preparation, and may be taken in from five to ten-drop doses in a little milk every three hours. A saturated solution of phosphorus in ether (Pr. 53) is very useful, and in five-drop doses every three hours has been known to work some wonderful cures. It is best taken on sugar or in a little milk. It must never be added to water in a bottle, with the idea of forming a mixture, for it would float on the top, and the patient might take a week's medicine with the first dose. We have seen benefit derived from it in neuralgia of the forearm. Phosphorus is a remedy on which we place great reliance in the treatment of neuralgia of all kinds. As might be expected, long-standing cases take the longer to cure; but even in them relief often follows the first few doses.

Chloride of ammonium enjoys a high reputation in the treatment of neuralgia. It sometimes succeeds admirably in neuralgia of the face. It is to be given in thirty-grain doses every four hours, and may be taken either alone in water or mixed with milk. Should it fail to afford relief in three or four days, it will probably fail altogether, and may be regarded as unsuited to the case.

Tincture of gelsemium is capital for neuralgic pains running along the lower jaw. It will often succeed admirably when the neuralgia is the result of decayed teeth. From five to ten drops should be taken in a wine-glassful of water every three hours. It in exceptional cases produces giddiness, double vision, and unsteadiness of gait; but these symptoms are quite temporary, and will all have disappeared in an hour or two on discontinuing the medicine. It often happens that gelsemium cures neuralgia, but leaves a toothache with which it may be associated unaffected. To get any good out of gelsemium you must take it alone in water, and not with other things in a mixture. This is a point often neglected. Pr. 41 may be employed.

Arsenic proves highly beneficial in some cases of neuralgia. It is said to succeed best when the pain is limited to the left side. The pain which it most frequently cures is of a burning or agonising character, and is accompanied by great restlessness. It is generally made worse by the application of cold, is increased by rest, and diminished by exercise. The arsenic may be given in tea-

spoonful doses of the mixture (Pr. 40) four times a day, or half the quantity may be given twice as frequently. Arsenic succeeds best in the sufferers from an exhausted or debilitated condition, who have a small pulse, and cold hands and feet.

Tincture of belladonna is not unfrequently given in neuralgia. It is indicated when there are acute, throbbing, intermittent pains, with redness of the affected part, and unusual sensitiveness to light, noise, and movement. It should be given in three-drop doses every three hours in a little water, or a smaller dose may be administered more frequently. Pr. 39 may be used. Belladonna does most good when the patient is full-blooded, and of a plethoric habit.

Bromide of potassium seems to be useful in a certain limited number of cases. It is said to succeed best in young men and women of high principle and high mental culture, to whom marriage is delayed by fate till long after the natural period for it. The dose of the bromide has much to do with the success of the treatment. We may commence with two table-spoonfuls of the mixture (Pr. 31) three times a day, but it will probably be necessary to double the quantity before its full benefits are obtained.

Tonga is a remedy for neuralgia which has long been used by the natives of the Fiji Islands. It consists of parts of at least two plants, the botanical names of which are not yet known. It is made into a fluid extract, and of this the dose is from half a tea-spoonful to a tea-spoonful in a little water three times a day. Relief generally follows the third or fourth dose, without the production of any constitutional disturbance. We have used it in a large number of cases with marked benefit. No ill effects follow the administration of larger doses. It has only recently been introduced into this country, but is now imported in large quantities, and can be obtained without difficulty.

So much, then, for what may be called the specific remedies for neuralgia. But even when we cannot cure the complaint, we can do much to alleviate pain; and we should do well to consider what means are at our disposal for effecting this purpose. First and foremost comes the hypodermic injection of morphia. The great advantage of administering opium by the skin instead of by the mouth is, that it does not upset the stomach, and, moreover, a smaller dose will suffice. Indeed, the case is hardly expressed with sufficient force when we say that the hypodermic injection of morphia is usually harmless to the digestive functions, for in a great number of instances it will be found actually to give an important stimulus both to appetite and digestion, and the patient, who without its aid could hardly be persuaded to take food at all, will not unfrequently eat a hearty meal within half an hour after the injection. Such a case has quite recently come under our notice. We are thus enabled, not only to alleviate pain, but to carry out simultaneously that plan of generous nutrition which is so essential to successful treatment. The dose required is usually one-sixth of a grain of acetate of morphia to begin with, corresponding to two drops of the pharmacopœial solution. There is not the slightest occasion to inject the drug over the seat of pain, for it will prove equally efficacious if introduced under the skin of the arm or leg. We cannot recommend the patient to adopt this mode of treatment for himself, but still, in exceptional cases, where the paroxysms are very severe, and other treatment has proved unavailing, it may have to be resorted to under medical advice. It is very important not to repeat the injection with unnecessary frequency; once a day in the milder, and twice a day in

very severe cases will be all that is advisable, the great thing being to administer it as quickly as possible after the commencement of an exacerbation. If by these means we can prevent the recurrence of severe pain for several days, time is given to the affected nerve to recover itself, and the tendency to neuralgia may be broken through. In some cases a friend or relative might be instructed by the doctor how to give the injection, and in this way a great boon would be conferred on the sufferer. We not unfrequently meet with cases where hypodermic injections of atropia have done more good than anything.

A single dose of chloral, say one or two tea-spoonfuls of the syrup, will often enable the patient to obtain much needed rest. Chloral, like opium, is not a remedy that can be used indiscriminately and without caution. Nothing can be worse than for the sufferer from neuralgia to acquire a habit of using either of these drugs for the relief of pains. But still, the possibility of a drug being abused does not justify us in altogether rejecting its use. It is very important that the habit of long neuralgic paroxysms should not be set up, and if two or three attacks are promptly stopped by the induction of a sound but not too profound a sleep, time is allowed for so modifying the constitution by tonics and general regimen and diet as to eradicate the neuralgic disposition, or, at least, to reduce it to a minimum. Indian hemp (*Cannabis indica*) may sometimes be used as a substitute for chloral or morphia. Half a grain of the extract of Indian hemp should be taken in the form of a pill (Pr. 67), and repeated in two hours should the desired effect not be produced.

There are many local applications which are used for the relief of the pains of neuralgia. Blisters are often of essential service. A blister to the temple or behind the ear generally relieves neuralgic pains of the forehead or any part of the face. The obstinate form of facial neuralgia dependent on a diseased tooth often yields to a blister, the neuralgic pains ceasing, although the toothache may continue. Blisters relieve the shifting neuralgic pains common in nervous, sensitive women. The obstinate neuralgia of the side left by shingles, and occurring mostly in old people, generally yields to blisters. There is no occasion to make the blister large; if of the size of half-a-crown it will be quite enough. Blistering paper, although mild in its action, requiring some hour's application, generally produces enough irritation to relieve neuralgia of the face, but should the pain continue unabated it may be necessary to paint on a little blistering fluid with a brush. For application to the side, nothing can be better than a piece of cantharides plaster, as big as half-a-crown. It will probably take from six to eight hours to raise a blister, and it should then be removed. It is better not to cut the bleb, or prick it in any way, for it serves to protect the subjacent raw surface from the action of the air and other irritants. All that is necessary is to cover the side with a thick layer of cotton-wool to ward off pressure. Other counter-irritants, such as mustard and iodine paint, are used for neuralgia, but they are decidedly inferior to cantharides. Blistering is distinctly a good mode of treatment.

The external application of aconite is often very useful in neuralgia, although in our present state of knowledge it is impossible to say in what cases it will succeed and in what fail. In neuralgia of the face we have often known it do a great deal of good. In cases in which it effects a cure its action is usually very speedy. A

piece of aconite ointment the size of a bean or nut should be rubbed into the painful spot, and this quantity may be repeated at intervals until a feeling of tingling is induced, after which it should not be continued. The aconite liniment, or the tincture of aconite may be applied, by means of a brush, along the course of the painful nerves. A very good plan is to mix the aconite liniment with an equal quantity of chloroform liniment, which assists absorption. Sometimes it will suffice to make the application over the most painful spot. In using a powerful remedy such as aconite, the greatest care must be taken not to rub it into wounds or cracks in the skin, and above all to avoid bringing it into contact with the lips or eyes. In some cases veratria ointment mixed with an equal quantity of lard may be used in place of the aconite ointment, but it, too, must be used with a certain amount of discretion.

A liniment made by rubbing together equal parts of chloral and powdered camphor often affords relief in neuralgia, when painted on the painful part. A great advantage is that when successful the relief is almost instantaneous.

A solution of morphia in oleic acid, of the strength of one or two grains to the drachm, often succeeds admirably as an external application. Any London chemist would quickly make this preparation. From five to ten drops should be rubbed into the painful spot with the tip of the finger. It should be used once or twice a day. Freezing the part by means of the ether spray often gives great relief in neuralgia, and is by no means a bad mode of treatment.

Electricity is undoubtedly destined to play an important part in the treatment of neuralgia. We can hardly enter into a discussion of the whole subject, but a brief statement of the present position of medical opinion on the subject may be of use to some of our readers. So many people nowadays are acquainted with at least the elements of electrical science, that the sufferer, once knowing the form of electricity he requires, will have but little difficulty in getting the requisite application made. In the first place, then, Faradic electricity is of little or no value in neuralgia, and the same may be said of frictional electricity. The constant current, on the other hand, is a remedy unapproached in power by any other, save only blistering, and the hypodermic injection of morphia; and even the latter is often surpassed by it in permanence of effect, while it is applicable in not a few cases where blistering would be useless. The greatest care is necessary in the choice of an apparatus, and the mode of application of the electricity. The battery should be *constant*, and not merely *continuous*. Many of the chains ordinarily sold for this purpose fail to afford relief on this account. A sufficiently constant current may be obtained from either a Daniell's, a Bunsen's, or a Smee's apparatus. Stöhrer's modification of Bunsen's battery is one of the best. It is made so that the elements are not immersed in the exciting fluid until the moment of use, a simple mechanism at once throwing the battery into or out of gear. Few people would care to purchase an expensive apparatus such as an electrical battery, even on the chance of being cured of a persistent neuralgia; but this difficulty may be overcome by borrowing the apparatus, or hiring it from a surgical instrument maker. This may be done at a comparatively small cost, and a very little instruction would soon teach the patient or some friend or relative how to use it. The use of a current intense enough

to produce pain, or even severe discomfort, is never to be thought of in the treatment of neuralgia, and such practice would inevitably do harm. Only such a current is to be used as produces merely a slight tingling, and, on prolonged application, a slight burning sensation, with a little reddening of the skin at one electrode. This is a point of the utmost importance, and anything like a shock is quite out of the question; in fact, it is a different kind of electricity altogether. The application of the current should be made at regular intervals, and at least once a day; in most cases this is enough, but sometimes it is useful to do it twice a day. The matter of regularity is of importance, and it will not do to abandon the treatment immediately on the occurrence of a break in the neuralgic attacks, but it should be continued for some days longer. The length of the application at each sitting should be from five to ten, or at the utmost fifteen minutes.

Respecting the surgical treatment of neuralgia we have little or nothing to say. Division of the affected nerve is alike unscientific and useless. Surgical interference is of course justifiable when, along with decided and intractable neuralgic pain, there is distinct evidence of the presence of some foreign body or of an old scar pressing on the nerve, but these cases are rare and exceptional. In some cases, too, decayed teeth may have to be removed for the cure of neuralgia, but it should be remembered that thousands of teeth have been extracted from the mouths of patients, not only without benefit, but with the effect of distinctly aggravating the complaint.

NIGHT-SWEATING.

Night-sweating is of frequent occurrence as a symptom of consumption. It is not present in every case, but it is in a good many. Curiously enough, the perspiration seems to have a close connection with the sleep of the patient: it seldom comes on while he continues to lie awake; but after sleeping he wakes, and finds that he is sweating. In a very large number of cases it comes on about three or four in the morning. It varies very much in degree in different cases; sometimes it is merely a little dampness about the head and face, at others it is enough to wet the flannel and night-shirt, and even the sheets. In one case the patient assures us that the bed was wet through right to the mattress. We have heard a man say that he was so wet, that it was "just for all the world as if he had been in a bath." We have known instances in which the unfortunate sufferer has been obliged to get up in the middle of the night to change his wet things. The perspiration is generally more profuse about the head and chest than the rest of the body, but sometimes the patient sweats all over, even down to the tips of his toes. Sometimes the sweating exhibits a good deal of capriciousness—the patient may suffer from it terribly for a week or two, and then it may suddenly take its departure, there being no return for a month or more. The sweating is no evidence of the existence of high fever, for we have often observed it when the temperature has been but little above the normal. It is most exhausting, and it is always desirable to stop it with as little delay as possible. Fortunately the remedies at our command usually enable us to do so without much trouble.

A very good remedy for night-sweating is oxide of zinc. One or two of the oxide

of zinc pills (Pr. 66) should be given every night at bed-time, until the sweating ceases. This is a mode of treatment which has been in use for years at the Brompton and other hospitals for consumption.

Dover's powder is a remarkably good remedy. We usually give ten grains every night at bed-time. We have employed it in a large number of cases, and have rarely known it fail. Five grains of the powder may be made into a pill, and two of these may be given at bed-time.

The injection of atropia under the skin usually proves successful. We employ a solution made by dissolving one grain of atropia in two hundred minims of water, and then inject one or two drops of this at bed-time under the skin of the arm. It is a valuable remedy in the hands of any one who knows how to give a hypodermic injection. We have employed it in nearly a hundred instances, and with almost uniform success. Very often a single injection will stop the sweating for three or four nights, or even longer. Occasionally it fails the first night, but subsequently succeeds. The atropia not unfrequently relieves the cough—at all events, temporarily. Picrotoxine is another good remedy. One of the picrotoxine pills (Pr. 102) should be taken at bed-time, and another may be taken in the early morning if necessary.

A dose of the astringent mixture (Pr. 29) given at bed-time often does good ; but we are inclined to think that it is inferior to the remedies we have already indicated.

A two table-spoonful dose of the strong quinine mixture (Pr. 10) the last thing before going to bed often succeeds admirably.

The practice of sponging the body with vinegar and water at bed-time to prevent sweating is not a bad one, and often proves successful. It is rather more troublesome than simply taking a pill or dose of medicine, and the exposure may possibly give the patient cold.

In some instances we have given ten drops of tincture of jaborandi in water at bed-time, with manifest advantage.

Many doctors, regarding the sweating as an indication of debility, always order a light supper to be taken just before retiring to rest. A glass of port wine and a biscuit or two usually answers the purpose. This mode of treatment may be used in conjunction with one or other of the specific remedies. Nine times out of ten relief will be obtained from either the oxide of zinc pills or the Dover's powder.

OBESITY.

By obesity we mean excessive fatness, or the accumulation of fat under the skin, and around some of the internal organs, to such an extent as to exercise a prejudicial influence on the health or comfort of the individual. The term corpulence is usually restricted to slighter cases, in which the quantity of fat is not so great as to cause positive inconvenience or discomfort.

A moderate amount of fat is one of the signs of health, and conduces greatly to our comfort and well-being. The uses of this substance in the animal economy are many and various, and merit a brief consideration. In the first place, it serves the merely mechanical purpose of a light, soft, and elastic packing material, which

being deposited between and around the different organs of the body, affords them support, and protects them from the injurious effects of pressure. Further, being a bad conductor of heat, the fat beneath the skin serves to some extent as a means of retaining the warmth of the body. But the most important use of fat is seen in what occurs during the process of nutrition, for when more fat-forming material is taken into the system than is absolutely required for the maintenance of the body, it is stored up and laid by in the form of fat, to become available for use when the expenditure exceeds the immediate supply. When the direct supply of nourishment is cut off by withholding it, or by interruption of the process of digestion, Nature has recourse to that which has been laid up in reserve in the form of fat. As every one knows, in the wasting of the body which ensues as the result of starvation, fat is the part first consumed.

Although the uses of fat are so many, and although it is such a valuable constituent of the body, it when in excess becomes not only burdensome and unsightly, but a real and serious evil.

It has been estimated that the mean quantity of fat in the body of a man should be about one-twentieth of his weight, and in a woman about one-sixteenth; but from what we have said, it is obvious that the proportion must be subject to great fluctuation.

Obesity is not peculiar to any particular period of life. Age, however, does undoubtedly exercise a considerable influence on the production of fat—for example, children are usually relatively fatter than adults; and, again, after the middle period of life fat often accumulates in large quantities. Females are more predisposed to the occurrence of obesity than are men, and women who have never borne children seem to be more frequently affected than those who have had several pregnancies—or rather perhaps, we should say, than those who have had the cares and anxieties of bringing up a large family. It is said that hereditary tendency exercises a marked influence in the production of corpulence, and this statement is in conformity with our every-day experience. Race, again, is an important element in the question: the Americans are remarkable for their thinness, and the Arabs are almost destitute of fat; whilst on the other hand Europeans, and more especially the English and Dutch, are proverbial for the fulness of their figures. In Hottentot women, fat accumulates largely in the neighbourhood of the posterior region, so as to form a considerable prominence; and it is said, we know not with what truth, that if they fall down on the side of a hill they experience considerable difficulty in getting up again. Individual peculiarity or idiosyncrasy comes in as an important factor in the production of obesity. Some people are naturally fat, others lean; some become corpulent on a moderate diet, others remain thin when reared in the midst of plenty and in the lap of luxury. Over-feeding will in the majority of people induce fat, and so will the habit of taking a great deal to drink, though it be only water. Fat people are not always great eaters, but they have invariably a great capacity for imbibing fluids. Farinaceous and vegetable foods are fattening, and sugar in all forms is an especially powerful agent in the production of fat. In sugar-growing countries, the negroes and cattle employed on the plantations grow remarkably stout while the cane is being gathered and the sugar extracted. During this harvest the

saccharine juices are freely consumed, but when the season is over the superabundant fat is gradually lost. Ease of mind and repose of body are conditions highly favourable to the formation and accumulation of fat, and so are insufficient exercise and indulgence in much sleep. Anxiety, fretfulness, and that condition to which we refer when we say a person is "fidgety," have a directly opposite effect.

It has been found that when diet and exercise are opposed to each other, diet is the stronger. The story is told of a publican living near Newmarket who indulged himself immoderately in eating and drinking. To keep the result of this intemperance in check he took a great deal of exercise, and twice a week he swallowed two ounces of Epsom salts, which always had the effect of making him more hungry. He grew to be prodigiously large and fat, and weighed 392 pounds or 28 stone. His case also serves to illustrate the occasionally beneficial effects of a reverse of fortune, for he failed in his business; and in one year from that time was reduced, under hard work and harder fare, to the weight of fourteen stone, with no suffering whatever to his health.

The consequences and inconveniences of obesity are often more serious than is generally believed. For directing the attention of the public to this subject we are in a great measure indebted to the late Mr. Banting, whose widely read "Letter on Corpulence" is probably familiar to most of our readers. In August, 1862, that gentleman was sixty-six years of age, about five feet five inches in stature, and weighed fourteen stone six pounds (202 pounds). He tells us that none of his family on either side exhibited any tendency to obesity, and that during fifty years' business career he had led a most active life, so that his complaint was not owing to neglect of necessary bodily activity, and did not arise from excessive eating, drinking, or self-indulgence of any kind. He describes most graphically the suffering induced by his "lamentable malady." He says that although of no very great size or weight, he could not stoop to tie his shoe, and could not attend to the little offices humanity requires without considerable pain and difficulty. He was compelled to go down-stairs slowly backwards to save the pain of increasing weight upon the ankle and knee-joints, and had to puff and blow with every slight exertion, particularly that of going up-stairs. He speaks very feelingly of the unkind sneers and remarks of the "cruel and injudicious" in public assemblies, public vehicles, or the ordinary street traffic, and of the annoyance of finding no adequate space in a public assembly, if he should seek amusement or require refreshment.

It may be taken as a general rule that obesity does not conduce to strength or longevity. It is usually followed by diminished vital power and loss of both bodily and mental activity. In many cases there are disturbances of the organs of respiration, circulation, and digestion; the blood suffers in quality; the muscles are weak and have little firmness, and the countenance is bloated and sallow.

There can never be any difficulty in recognising the condition of which we have been speaking. Sometimes the obesity is partial as in what we call "pot-belly," but in the majority of cases it is general, and affects the whole body.

We must now speak of the treatment of obesity. Mr. Banting's simple narrative of his experience proves that a proper diet is alone sufficient to remove that condition, and that the use of drugs is not necessary. He tells us that for years he

struggled in vain against constantly augmenting fatness, and that under the advice of numerous physicians he tried all kinds of different treatments without deriving the slightest benefit.

He says: "I have tried sea-air and bathing in various localities, with much walking exercise; taken gallons of physic and liquor potassæ advisedly and abundantly; riding on horseback; the waters and climate of Leamington many times, as well as those of Cheltenham and Harrogate frequently; have lived upon sixpence a day so to speak, and earned it if bodily labour may be so construed." At one time he took a course of ninety Turkish baths, but never during the whole of the treatment managed to lose more than six pounds in weight. On another occasion he was recommended to take increased bodily exertion before his daily labours began, and with that object he lived near the river, and tried rowing a good heavy boat for a couple of hours every morning. The only result was that he gained in muscular vigour, and with it a prodigious appetite which he was compelled to indulge, and consequently increased considerably in weight instead of getting thinner. At last, his hearing being greatly impaired, he went to a well-known aural surgeon, since dead, who advised him to abstain as much as possible from fat or fat-making articles of diet. Thereupon he almost abandoned the use of bread, butter, sugar, beer, and potatoes, eating freely and fully, however, of other kinds of food. In this way he was reduced many inches in girth, and lost in thirty-eight weeks thirty-five pounds in weight. In addition he improved wonderfully in general health, comfort, and symmetry, and the improvement was permanent.

The following is, with a little modification, the plan of dietary adopted by Mr. Banting.

Breakfast (about 8.30 a.m.).—Four or five ounces of beef, mutton, kidneys, boiled fish, bacon or cold meat (except pork or veal), or a couple of eggs (not hard boiled), a large cup of tea or coffee (without milk or sugar), a little biscuit, or an ounce of dried toast, brown bread, or crust off a common household loaf.

Dinner (about 1 p.m.).—Five or six ounces of any fish (except salmon, herrings, or eels), any meat (except pork or veal), any vegetable (except potatoes, parsnips, beetroot, turnips, or carrots), one ounce of dry toast, or crust from the loaf, fruit out of a pudding (without sugar), any kind of poultry or game, and two glasses of dry sherry, or three of good sound claret (champagne, port, and beer are forbidden).

Tea (about 5 p.m.).—Two or three ounces of fruit, a rusk or two, and a cup of tea (without milk or sugar).

Supper (about 8.30 p.m.).—Three or four ounces of meat or fish, and a glass or two of claret.

On rising in the morning Mr. Banting was in the habit of taking a "special corrective cordial" containing a drachm of aromatic spirits of ammonia, and ten grains of carbonate of magnesia, with the object of obviating any tendency to gout.

This plan of treatment is in many cases undoubtedly a good one, but it should not be adopted indiscriminately. Mr. Banting gives a very sensible bit of advice when he says, "I do not recommend every corpulent man to rush headlong into such a change of diet (*certainly not*), but to act advisedly, and after full consultation

with a physician." We have heard of cases in which a too close addiction to "Bantingism" has been followed by very unfavourable results.

With obesity, as with most other things, prevention is better than cure. It will be found in the great majority of cases that if a man increases much in weight between the ages of thirty and sixty he is either eating or drinking too much, or is less active in body and mind than he should be. Before resorting to Bantingism he should try if he cannot bring himself down by giving up wine, spirits, and beer, by lessening the amount of food by one-third or even more (without altering its nature), and by taking more exercise. This plan will often lessen fat without reducing the strength or injuring digestion. Should this fail after a fair trial, Mr. Banting's plan, either in its integrity, or in a somewhat modified form, should be cautiously adopted.

We know of no drug, or combination of drugs, which will cure obesity without injuring the health. Of course, the unexpectedly favourable result of Mr. Banting's experiment was not in any way due to his morning draught. At one time it was quite the fashion to take potash and other alkalies to diminish fatness. The result of this method of treatment is that the mucous membrane or lining of the stomach becomes disorganised, the appetite is lessened, and food is not assimilated. There is no doubt that it will indirectly by this means cause considerable wasting of the body, but it is surely very injudicious to damage the health, and perhaps endanger life, with this object. Vinegar is also employed by many people for the same purpose, but it acts in exactly the same way, and its use cannot be too strongly condemned.

It is very essential that every one who undergoes a course of treatment for obesity should be regularly weighed, and that a careful watch should be kept on the condition of the general health. Particular care should be taken that the appetite does not fail, the power of digestion fall off, constipation ensue, the action of the heart become enfeebled, or the blood get impoverished. As a rule, it is not advisable to diminish the weight at a greater rate than a pound a week, and the experiment should not be carried too far.

OBSTRUCTION OF THE BOWELS.

Obstruction of the bowels is a fearful disease, which may arise from a great number of different causes. It is a very much more serious complaint than mere constipation; on the one hand we have to deal with a condition which usually yields to a little judicious treatment, whilst on the other we have a disorder which too often defies our best efforts.

The causes of obstruction are many, and often it is quite impossible to distinguish between them during life. The ordinary contents of the bowels, however unwholesome and indigestible they may be, seldom give rise to a permanent stoppage, and even hard, foreign bodies, such as coins, bits of bone, teeth, marbles, plum-stones, and the like, generally traverse the intestines without doing any harm. Pins and needles have been known to prove equally innocuous. Unfortunately, however, foreign bodies occasionally form accumulations sufficiently bulky to obstruct the bowels. The case is recorded of a French soldier who was seized with all the

symptoms of obstruction fifteen or twenty days after gluttonously swallowing some pounds of cherries, stones and all. He died, and on opening his body a mass of cherry-stones, almost as big as a man's fist, was found completely blocking up the bowels. Sometimes a large gall-stone may prove fatal in a similar way. Insoluble matters in the form of powders or of fibres when habitually swallowed, even in small quantities, are often concocted into hard masses. Sometimes a collection of purgative pills may give rise to trouble. It is astonishing, however, what a lot of pills some people will swallow without seeming any the worse for it. In a recent breach of promise case it transpired that the defendant, a clergyman, had taken five pills a day for a period of over thirty years—and he survived. Round-worms have been known to cause obstruction; sometimes there are great numbers of them, and they may be twisted up together so as to form a big ball. If in such a case it were possible to ascertain the nature of the obstruction, probably little difficulty would be experienced in effecting a cure.

Sometimes the obstruction is due to stricture of the bowel, and then the hopes of a favourable termination are indeed small. The stricture may possibly depend on some condition of spasm which is merely temporary, but the contraction of the bowel is far more likely to have risen from the healing of some old ulcer, or it may be from the deposit of cancer or some other malignant growth in the wall of the intestine. We have already seen that in typhoid fever we get ulceration of the bowel, but fortunately the healing of these ulcers seldom or never give rise to stricture, probably because they are too small. Children are sometimes born with stricture of the bowel, or even without any passage.

Occasionally the bowel is obstructed by something pressing on it from the outside. In rare cases there has been some tumour connected with the womb or some other organ which has given rise to the mischief. Sometimes the bowel may become what is called "strangulated," or constricted internally, a knuckle of the bowel being nipped in some little hole in the tissue so that nothing can pass through it. In other cases, what we call "intussusception," or "invagination," takes place, one part of the bowel being drawn into another portion, just as the finger of a glove can be made to glide within itself. The passage of the gut then gets more or less obstructed by the congestion and inflammation which result. Usually the intussusception is single, though three or four, or even ten, distinct invaginations have been found in the same subject. This kind of obstruction is most common in children, and also in old age. Perhaps one of the most frequent causes of obstruction is a rupture, and consequently in every case of obstinate constipation a careful examination would have to be instituted by the doctor of those parts of the abdomen, thigh, and hip through which the intestines could protrude.

Such are the chief causes of this fearful malady, and we should be thankful that the complaint is not more common, for there are few cases of disease more painful to witness than those resulting from invincible obstruction and closure of the intestinal tube.

Next as to the symptoms. Sometimes the attack is quite sudden, and the patient experiences a sensation as if something had gone wrong in his inside. At others the onset is gradual, and there is nothing to indicate anything at all

serious. What happens is often of this kind: A person thinks it expedient to take some aperient medicine. This has no effect, and he repeats the dose. It causes pain and griping, and probably sickness as well, but still the bowels are unmoved. Then, perhaps, something stronger is tried, such as jalap, or calomel, or eleterium, or croton-oil, or injections are given, but all in vain. The patient is often conscious that food or medicines reach a certain spot, and there stop. Very often they are rejected, or if they are retained they only serve to augment the feeling of anxiety and distress. The abdomen gradually becomes distended, especially if the patient is able to retain food. The intestines act powerfully, and do their best to overcome the resistance, but their efforts are in vain, and often give rise to the most agonising pain. Sometimes the great coils of intestines can be made out through the abdominal wall rolling over and over like a lot of snakes. Vomiting soon sets in, and everything may be rejected. After a time the vomited matter becomes "stercoraceous," that is, it has the odour and appearance of a motion. If relief cannot be afforded, the sufferings of the patient are often very great, and his mental distress is agonising. In fatal cases the mind is usually clear to the last, the sufferer's attention being intently and distressingly riveted upon the possibility of obtaining relief.

When the obstruction is in the upper part of the intestines, and our treatment fails to remove it, death usually ensues in a period varying from five to ten days, but when occlusion occurs lower down life may be prolonged for a much longer period. Cases are on record of patients having lived on without any evacuation of the bowels for four, or five, or even six weeks. It is in these protracted cases that recovery occasionally occurs spontaneously.

What should be the treatment of obstruction of the bowels? In the first place, the attendance of a medical man is absolutely necessary—in fact, we know of no disease in which skilled assistance is of more importance. Whenever there is obstinate constipation which cannot be overcome by ordinary purgatives, you should bear in mind the possibility of there being some obstruction. If you are in any doubt, send for the doctor. In any case in which you are convinced that there is a mechanical obstruction to the use of the bowels, you should at once cease giving purgatives. To persist in the use of powerful purgatives under these circumstances is to inflict wanton and needless suffering on the patient. You must remember that the bowel is already contracting powerfully, and requires no stimulating. Rather should an endeavour be made to moderate the propulsive force, and relax spasm by the administration of opium. A dose of laudanum will often do more to relieve the patient's sufferings and to produce an evacuation than any quantity of calomel or colocynth.

With the view of averting, or at all events postponing, the distension of the bowel above the seat of obstruction, it is necessary to limit the amount of fluid taken by the mouth, and to regulate its kind. The nutriment should be liquid, and small quantities only should be given at a time. Large injections gradually and gently introduced into the bowel, and repeated three or four times a day, often prove of great value. When the obstruction is due to some hard mass, they may in time succeed in breaking it down, or at all events by

fomenting the obstructed part, they may facilitate the passage of fluids which have accumulated above. Moreover, if these enemata are composed of beef-tea or milk, and are retained as long as possible, they serve materially to maintain the strength of the patient. Injections of very large quantities of warm water have sometimes been attended with the happiest results. Fomentation of the abdomen externally by large hot poultices, of gentle friction of the surface with warm oil, may do good. All manipulation must be performed with the greatest care and gentleness, for you might easily rupture the thin, distended bowel by rough or careless handling.

But should these remedies prove unavailing, can nothing more be done? Yes, life may sometimes be reprieved by a surgical operation. Inflation of the obstructed gut by the injection of air into the bowel has been practised with success. In the case of a young lady, about ten years of age, inflation was performed on the fifth day after the setting in of symptoms of acute intestinal obstruction, supposed to depend on intussusception. The proceeding was followed by perfect success, the patient felt "as if a bone had broken" in her abdomen, the obstruction was removed, and motions followed in three hours, although all previous treatment had failed. Other methods of treatment are sometimes resorted to. The gut may be punctured above the seat of obstruction and allowed to discharge its contents through what is known as an "artificial anus." There are at the present time many people living and in good health whose lives have doubtless been prolonged by this operation. Occasionally the abdomen has been opened with the view of disentangling or setting free the intestine strangulated within. It should always be remembered that in cases apparently hopeless a spontaneous cure sometimes takes place almost at the last moment, and that the more protracted the duration of the disease the greater are the chances of recovery.

OFFENSIVE BREATH.

Nothing can be more disagreeable than an offensive breath. In health the breath should be perfectly sweet and tasteless. We have already had occasion to refer incidentally to the condition of the breath in several disorders. Thus we have seen that in diabetes mellitus it has a peculiarly sweet odour, which has been likened by some to the smell of chloroform, and by others to that noticed in an apple-room. In Bright's disease the breath may acquire an odour of sal-volatile, or it may resemble that of the urine, especially when the patient is suffering from the condition known as uræmic poisoning. During the progress of most fevers the breath is not only disagreeable but infectious. In malignant sore throat, in scurvy, and in people who have been salivated by mercury, the breath is often extremely disagreeable. But probably the disease in which the breath becomes most offensive is gangrene of the lung. This condition sometimes occurs in the course of advanced consumption, and its onset is only too readily recognised by the foul smell of the breath.

In the majority of cases, however, offensive breath occurs not in the course of any of these diseases, but simply as the result of indigestion or want of attention to the teeth. The advertising dentist usually draws a ghastly picture of the horrors of

an offensive breath, the moral being, of course, that you are to go to him and have your teeth set to rights. His hint is by no means to be despised, and there is no doubt that one of the commonest causes of offensive breath is the presence of decayed teeth in the jaw. The sooner they are stopped or taken out and replaced by new ones, the better. But even when the teeth are sound they may, from want of attention, taint the breath. It is an excellent plan to clean the teeth with a soft brush after every meal. In the case of men, who during the greater part of the day are out and at work, this may be impossible; but surely in the case of young women, who are at home all day, it is no great hardship. At all events, the teeth should be brushed inside and out at least twice a day, morning and evening. The addition of a few drops of Condyl's fluid to the water is useful. Camphor may advantageously enter into the composition of any dentifrice that may be employed. When dyspepsia is present it should be removed as soon as possible, not only for the sake of the breath, but for the general health as well.

Most of us are acquainted with the peculiar smell of the breath observed in people who are addicted to the abuse of ardent spirits. It is not actually the odour of the gin, or brandy, or rum, or whatever it may be, that one perceives, but it is something over and above this. It is a sour, acid, "vitrioly" smell, which is very characteristic of the tippler. You may even notice it through the odour of the fresh spirits. Then, again, the breath of the tobacco smoker is often none of the sweetest, and we are all disposed to give a wide berth to any one who has been indulging in onions or garlic.

The treatment of offensive breath consists essentially in the alleviation of the condition on which it is dependent. In many cases the care and skill of the dentist will do more for you than will medicine. If you have artificial teeth, you should see that no preparation of mercury, such as vermilion, is used in the colouring of the india-rubber framework, now so commonly employed. Several cases of injury from local mercurial poisoning have been recorded of late years from the red frames used to imitate the gums. When the condition of the breath depends on the stomach, the rules laid down for the treatment of dyspepsia should be consulted. A dose of wood-charcoal taken three times a day for a week or ten days often proves beneficial (Pr. 75), or *nux vomica* may be used with advantage (Pr. 44). When the offensive breath is associated with, if not dependent on, a sore or ulcerated mouth, small doses of mercury according to Pr. 48 will prove the best treatment. In many cases perfumed carbolic acid used with water as a wash for the mouth proves useful.

OLD AGE.

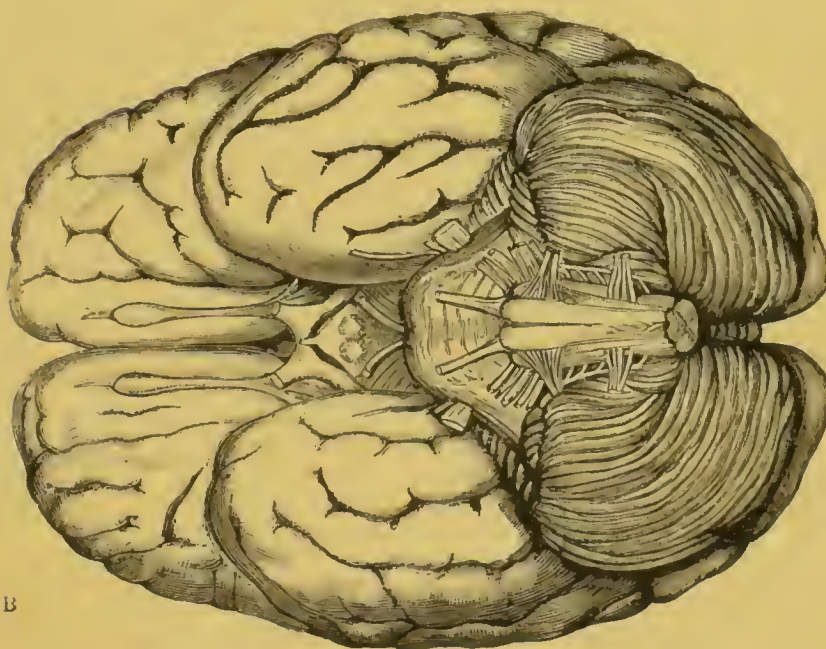
Old age, although not strictly speaking a disease, presents many points of interest that may fairly occupy our attention. As life advances, the tissues become more condensed, the bones firmer, the cartilages harder, and the articulations closer; the muscles fail in their tension; the organs of the senses lose their refined adaptations, and the skin falling into wrinkles and folds loses its colour, softness, and elasticity. But these cannot be regarded as phenomena of disease, for they belong as naturally to the declining period of life as certain phenomena of development—the cutting

and the shedding of the teeth, for example—belong to infancy and childhood. Some people as they grow old seem only to wither and dry up—sharp-featured and shrivelled old folk, yet withal wiry and tough, clinging to life and letting death have them, as it were, by small instalments slowly paid. With others—women more often than men—the first sign of old age is that they grow fat, and this abides with them till, it may be, in a last illness sharper than old age, they are robbed even of their fat.

Death by extreme old age may in many instances be considered as the desirable end of a long continued and perhaps weary journey. The sufferer falls asleep as he might do after severe fatigue, and the long pilgrimage of life is brought to a close with little apparent derangement of the ordinary mental powers. Without pain, anger, or sorrow, the intellectual faculties lose their brightness; ambition ceases or is merged into the desire for repose; ideas of time, of space, and duty, lingeringly pass away; to sleep and not to dream is the pressing and still more pressing need, until at length it whiles away nearly all the hours. The awakenings are short and shorter, painless, careless, happy awakenings, to the hum of a busy world, to the merry sounds of children at play, to the sounds of voices offering aid, to the effort of talking on simple topics and recalling events long since past, and then again to overpowering sleep. The final scene is often brief, and the phenomena of dying are almost imperceptible. The senses fail, as if sleep were about to supervene, the perceptions become gradually more and more obtuse, and quietly and calmly the long last journey is undertaken, so that we can scarcely tell the precise instant at which the solemn change from life to death has been completed. It would seem that the act of dying may be as painless as that of falling asleep; indeed, those who have recovered after apparent death from drowning, and after sensation has been completely lost, assert that they have experienced no pain. The mind at the solemn moment may be absorbed in an instantaneous review of those impressions made upon the brain in bygone times, which are said to present themselves with such overwhelming power, vividness, and force. This purely painless process, this descent by oblivious trance into oblivion, is the true euthanasia—the sequel of health, the happy death engrafted on the perfect life.

So much, then, for euthanasia; a death like this may be desirable, but, practically, the majority of us like to live as long as we can, and we may advantageously consider what steps we may take, when advanced in years, to prolong life and preserve our faculties unimpaired.

In the first place old people have undoubtedly certain advantages over their younger brethren. They have passed the ordeal of epidemics, and if they have never had scarlet fever or whooping-cough, they are not likely to catch it now. Then, too, they have passed the age at which consumption and many other diseases are developed, and so far, as we have said, they have a decided advantage. But on the other hand, old people, and those who have lost their teeth, run some risk of not being sufficiently nourished in consequence of swallowing their food too rapidly. They are often hurried over their meals, through the thoughtlessness of those around them, and since they chew slowly, and secrete saliva slowly, the food remains undigested. Their juniors should know this, and, remembering it, should govern



THE HUMAN BRAIN.

A. Upper surface.

B. Lower surface.

themselves accordingly. The story is told of a lady—a kindly British matron—who, on being remonstrated with for spending more hours at table than was good for her, replied that if she did not do so she would be a widow in a week, and that she habitually ate too much to keep her aged husband in countenance.

It is of primary importance that, for old people, the meat should always be of the best quality, and as soft and tender as possible. When the teeth are gone and no artificial substitutes have been provided it should be cut up finely, or may even be minced. Vegetables should not be over-softened in cooking, and there should be sufficient resistance in them to make chewing imperative, so as to excite the secretion of the fluids of the mouth, which is so essential for proper and easy digestion. There can be no doubt that in the decline of life fermented liquors are more advantageous than in early manhood. It is strictly in accordance with the teachings of physiology to increase as years grow upon us the moderate quantity of stimulant we have been accustomed to take. Elderly people are able to do with less sleep than youngers, and need not be alarmed at a certain shortening of their night's rest, which is only natural. But sometimes this is carried too far, even when the health appears to be perfect in other respects, and they get worn out with restlessness, and rolling about. This inconvenience may often be obviated by taking a little food and stimulant the last thing before going to bed. A sandwich and a glass of stout will make an excellent night-cap, and will often ensure a refreshing night's rest. Sometimes an egg beaten up in a little brandy-and-water or brandy-and-milk will succeed equally well. Some people like malaga, and others like a glass of burgundy or port, warmed, spiced, diluted, and sweetened. Many people take gruel or arrowroot every night of their lives, but the custom is not a good one. We may be wrong, but we always think they take it because, to use a popular but suggestive expression, "it is filling at the price." It undoubtedly contributes to length of days to associate as much as possible with young people, and to adopt such habits and manners as may attract rather than repel them, to which there is too often a temptation in old age. Grandchildren are not to be despised, for the best companions are those whose spirits are high and joyous, if we can only induce them to rally round us, and infect us with their life. There is nothing more conducive to a long life than ease of mind, contentment with the present, and a calm confidence in the future. It is not hard work that kills the active, nor idleness that kills the man of leisure, be he old or young, but worry and *ennui*.

The influence of mental emotions over digestion must not be forgotten. Bread eaten in sorrow remains unabsorbed ; and it is not without reason that even from the earliest times, and amongst the most barbarous nations, companionship during meals has always been sought. It is not only painful reflections which disturb digestion, but any concentrated thought is equally injurious, and injurious in close proportion to the intellectual powers of the individual. The cleverer you are the greater the necessity for taking your meals in company. To the brain-worker cheerful distraction at meal-times is an imperative necessity, the habitual neglect of which entails chronic disease and the early failure of the digestive powers. The adjuncts of family meals should be made as agreeable as possible. A change of clothes, clean hands,

and courteous manners, should not be reserved for company, but enforced as a daily habit. Table decoration is not to be despised, and the cook should be encouraged to make her dishes as attractive as possible. The forms of animals, and, in fact, anything which makes us remember that the food has been a living animal at all, should never be conspicuously displayed, but covered with such vegetable garnish as is capable of harmonising with the character of the dish. Many people have a great objection to seeing such things as calves' heads on the table on purely artistic grounds. Ease of mind and ease of body are requisite for complete digestion. Muscular exertion should be avoided immediately before and immediately after all substantial meals. The best employment after dinner is light conversation or music, accompanied by such gentle sauntering movements as are encouraged by a well-ventilated drawing-room. A cigar or cigarette is often a great help to digestion. After a night's rest and the long fast which has emptied the digestive organs, food should be taken before any of the material business of the day is begun. Work done before breakfast is more tiring, and is not done so well as after the stomach has been fortified. The hour of rising should regulate the hour of breakfast. It is no proof of vigour to forego breakfast without inconvenience, but, on the contrary, it is a great point to be able to lay in a good foundation for the day's labour. The weak and feeble, as well as those advanced in years, will find it a good plan to have a cup of tea, with some dry toast or bread-and-butter, before attempting to get up. Many people prefer a tumbler of milk with a table-spoonful of brandy or rum in it; but we should certainly recommend the hot cup of tea by preference. In winter it is not a bad plan to have a fire to dress by, especially when the process of shaving has to be gone through.

People as they get older often suffer from torpidity of the bowels, and constipation is with them a constant source of trouble. The practice of taking aperient pills is a bad one, and it is much better to effect the desired object, when possible, by a little attention to diet. Many people can ensure an evacuation by taking every morning on getting out of bed a tumblerful of cold water. The draught may be made more palatable if a few cloves have been placed in a tumbler over night, and had boiling water poured on them, so as, in fact, to make a weak clove tea. A good way of keeping the bowels in order is to indulge in a little extra fruit, and the best time to take it is an hour or so after breakfast. Apples are rather heavy, but a nice ripe pear or a couple of oranges will often succeed admirably. Grapes, currants, blackberries, and barberries may be indulged in for a change. Many people like bananas. Roast apples and stewed prunes are much better suited than pastry as a second course in the condition now under consideration. Some people like stewed prunes with meat. Figs can be eaten either cold or in a pudding. Green vegetables should be indulged in freely, and watercresses, dandelion, and lettuces may be eaten *ad libitum*, provided only that they can be obtained fresh. Two tea-spoonfuls of salad-oil taken at bed-time will prevent that drying and hardening of the contents of the bowels which is so frequently a source of inconvenience. When these remedies fail it is a good plan to substitute coffee for tea at breakfast, and brown bread for white. Porridge is an excellent breakfast for those who like it. The coarsely-ground Scotch oatmeal should be used. "Mix

two table-spoonfuls of it with a small tea-cupful of cold water, till it is of uniform consistence. Then pour in a pint of boiling water, and keep boiling and stirring it for forty minutes. It is then fit to eat, but may be kept simmering till wanted if a little more water be added as the other steams away. It should be served in a soup-plate quite hot, and cold milk added to reduce it to an eatable temperature." With these means at our disposal no difficulty should be experienced with the bowels.

Of course the fact will be at once recognised that the number of years a man happens to have lived in this world is no guide to his real age. Some people are still young at sixty ; others are old at forty. We do not all live at the same rate, some live slowly and quietly, suffering but little wear and tear ; others live fast, and soon find that the pace tells. Nowadays we live faster than we did a century or two ago. If one of our ancestors were suddenly resuscitated and made to undergo the toil and mental labour we do, he would soon give in. The life of an intelligent man, who would keep on a level with his compeers of the present day, is equivalent to at least a dozen lives of a former age. What is expected of mere boys in this competitive age was not required of wise, full-grown men of old. Take the example of a senior wrangler. Even Newton ignored the scope of mathematical science which a senior wrangler must now possess, and how hard such men must work and over-work themselves is evident from the small number who are ever heard of again, or succeed in the real battle of life. They are "played out" before they are thirty, and one feels inclined to agree with the common remark that a senior wrangler is generally one of the worst educated men in England. Few of the successful men of this or any other age rest upon the laurels gained in their early years, and under the exhaustive modern system few or none, after success in examinations, have energy enough left to begin the real work of life. Most of them are content with the honours they have gained, and sink back breathless with the effort. There can be no doubt that at present society is following a course which must inflict irretrievable damage upon our children, and those who are to come after them. Health and education do not go, as they ought to go, hand in hand. "The whole head is sick, and the heart faint ;" for as the frantic passion for over-instruction affects the body it reacts upon the mind. The child who has been a victim to excessive education during the period of immaturity is never intellectually strong, and is generally feeble in physique, in adolescence, and early manhood. In these days there is a strain after knowledge, a frenzy of emulation in acquirement, such as the world never saw before. The world has produced great men in abundance in every generation, in every sphere of activity, in every combination of circumstance. But always, hitherto, the one indispensable condition was present, the condition of unfettered development. The appearance of the great men of the past in literature, art, and science, was natural, because nature in their case was free and untrammelled ; but the appearance of such men in similar greatness under the present educational system is well-nigh impossible. The theory, or at any rate the practice, of modern education is to supply an unlimited quantity of knowledge in early life, when both the mental and the physical powers are immature. It is like trying to improve the healthy action of the stomach by a system of over-eating.

Symptoms of over-work and premature old age are often seen in quite young children. Children are set to study even before they have learnt to play. Before the age of seven a child's work should be principally play, though play judiciously guided and varied, as it is under the Kindergarten system, may be made to impart a great deal of useful learning, without resort to a book or formal lesson. Too often we find that children from the tenderest age are kept at school for six hours a day, and have lessons to prepare at night in addition. Only the other day we saw in the hospital a little girl, aged thirteen, who was suffering from St. Vitus's, which had undoubtedly been brought on by over-work. She was attending a school where she was taught "French, physiology, grammar, analysis, British history, writing, spelling, arithmetic, freehand drawing, needlework, and maps," besides several other subjects of which she had forgotten the names. She was a day scholar, and had lessons in the morning from nine till twelve and again in the afternoon from two till half-past four. Besides this she had work to do at home. She began again directly after tea, and worked up to ten or eleven at night. She had been doing this for over a year, and during that time had hardly had a day's holiday. If this is not cruelty, we do not know what is. No doubt some of these poor little unfortunates grow up precocious, and are thought by their proud and doting parents to be "clever." But the results are no longer any matter of doubt. As a recent writer says—"These precocious, coached-up children are never well. Their mental excitement keeps up a flush, which, like the excitement caused by strong drink in older children, looks like health, but has no relation to it. Their tongues are furred; their appetites are capricious; all kinds of strange foods are asked for, and the stomach never seems to be in order." If an over-worked child continue to be over-worked, more alarming physical symptoms quickly appear. "The frequent flush gives way to an unearthly paleness; the eyes gleam with light at one time and at another are dull, depressed, and sad, and are never laughing eyes. The brightness is that of thought on the strain, and it often presents a dangerous phenomenon. The muscles are flabby; the sleep is restless, and disturbed with nightmare, or perhaps somnambulism." As the victims of over-education grow up to boyhood or girlhood these physical evils are complicated by others of a moral or intellectual character. "Clever" boys and girls, but especially boys, continue to be over-worked, and in the period of approaching and attaining puberty, over-work hurries thousands of unrecognised victims to the grave. No farmer would think of over-working a growing horse, and yet parents and teachers combine to drive lads and lasses between thirteen and eighteen into an endless series of competitive examinations, the severity of which is every day increasing. Sometimes a mistake is made in not recognising the natural quality or bent of the pupil's mind, and still more frequently irremediable injury is done to his spirit in sending him into a competition in which he stands not the ghost of a chance. These intellectual gymnastics are a great mistake. Even the successful are deeply to be pitied. "The prize system is bad fundamentally. In the matter of health, that system stands at the bar guiltiest of the guilty. We have but to go to a prize distribution to see in the worn and languid faces of the successful the effects of the system, and there we do not see a tithe of the evil; we have not seen the children before the competition, nor do we see them after it, nor between the competition and the

announcement of the awards. If we could see all the changes incident to these events, we should see what a mad system it is, and should understand how much the dull are to be envied, rather than the successful and the flattered and triumphant." With this opinion we cordially agree, and regret that a knowledge of these facts is not more widely distributed. The symptoms of premature old age in the adult are not difficult of recognition. They are in the main those of exhausted nervous power, that is to say, general debility of the body, inability to walk even short distances without fatigue, a feeling of languor and unwillingness for exertion of any kind. In addition there are well-marked mental symptoms, and generally some previously unnoticed peculiarity develops itself in the character of the affected person. A man formerly generous and reticent may become intensely selfish and garrulous. Without any apparent reason he takes likes and dislikes to those with whom he is associated, especially to his best friends and nearest relatives, whose motives he invariably insists on misunderstanding. He is subject to uncontrollable fits of moroseness and bad temper. A previously careful man becomes unusually liberal, even extravagant. A man who all his life has been remarkable for his modesty and retiring disposition puts off all reserve and makes himself intensely disagreeable to everybody, or does something that astonishes beyond measure all who know him. Not unfrequently in this condition there is an utter inability to fix the attention on any one subject. Even in reading the thread of the story or argument is lost. The memory becomes strangely defective, and is often so bad that when the unfortunate patient leaves the room to go to another to fetch something, he has quite forgotten all about it on his arrival there. You may find him, too, on his hands and knees searching on the carpet for something he has just dropped; ask him what he is looking for and it is ten to one that he will not remember. Sometimes not only is there an entire inability to arrange the ideas in order, but the judgment becomes curiously perverted, a serious matter when the subject of this change holds a position of trust and responsibility. Sometimes a remarkable indifference to veracity becomes manifest in persons previously noted for their truthfulness, and in others we find a craving for strong liquors, which they find it well-nigh impossible to resist. Often enough there is an undue excitability of the senses, the hearing for example, becomes intensely acute, so that the noise of a door slamming in the street is almost unbearable. Then the sight may become strangely impressionable, bright colours are intensely disagreeable, scents are odious, and the taste is completely altered.

There is only one treatment for the condition that we have described, and that may be summed up in the one word, "rest." When a man is living too fast, when he is suffering from constant worry and anxiety, when he is wearing himself to pieces, there is only one thing for him to do, and that is to stop. It is of no use for a man to say that it is impossible for him to pull up, for he must, or he will very soon find that he will break down completely and entirely. A six weeks' holiday, if taken in time, will often set a man on his legs again, and enable him to go on with his work for months, or even years; but should he fail to take Nature's warning, she will have her revenge, and he may have to pay dearly for his temerity. Sometimes something may be done in the way of obtaining a temporary change of employment. For example, the over-worked doctor may get a travelling appointment

with some rich patient, or he may be able to exchange the worries and anxieties of practice for literary work. Rest does not so much mean absolute idleness as change of occupation. As adjuncts, bromide of potassium (Pr. 31) or phosphorus (Pr. 53 or 54) may prove useful, but the real and only true treatment is rest. If you are pulled down from any cause there is nothing like taking a holiday, and there is no surer means of warding off that complaint of which we are all so much afraid—"old age."

It must be understood that it is not work that we condemn, but over-work. We should be the last to underrate the importance of real honest work. In fact, a certain amount of work is necessary for the maintenance of health. The enervating effects of inactivity upon the physical structure and energies of mankind few can have failed to observe. Rust is more fatal to metal than wear. A thorough-bred racer, if confined in stable or paddock, or a boxer, born of the finest muscular make, if permanently incarcerated in gaol, will, after a few years, become quite unable to compete with those vastly their inferiors in natural endowments and capabilities. This is equally applicable to the temper and intellect of man, which, secluded from the scenes of appropriate stimulus and exercise, become relaxed and weakened. What would have become of the glorious spirit and powers of Achilles if his days had all melted away in the tender, delicate, emasculating inactivity and indulgence of the Court of Lycomedes? Work, then, but work in moderation, and work judiciously.

PAIN IN THE MUSCLES, OR MYALGIA.

This is an affection with which we are all more or less familiar. We commonly speak of it as "cramp," "stiffness," "soreness," or "aching." It is the almost constant result of any unusual or unusually prolonged muscular exertion. Every schoolboy remembers his first ride, and every athlete his first day's training. The traveller remembers how stiff and weary he feels after a long day's journey in a jolting carriage, and the mountain-climber knows how sore he is after ascending any considerable eminence for the first time in the season. It is from pain in the muscles that the seaman is suffering when he complains of how his eyes "burn" after many an hour's weary look-out for land, especially when the duty has to be performed at night.

It might be thought that this affection must of necessity be confined to men, or at all events to them and to those of the fairer sex whose habits and pursuits are more or less Amazonian in their character. Such, however, is by no means the case, and we do not wonder at it, for the fact is that few people have any idea of the amazing amount of work which women of the middle and poorer classes of life have often to get through in the course of the day. From the first thing in the morning to the last thing at night they are always on their legs, washing, dressing, scouring, making the beds, shaking the carpets, sweeping, ironing, sewing, darning, clearing up, dusting, looking after babies, &c. &c. All these acts require muscular exertion, and this is sometimes excessive in degree, yet from their very insignificance, and their daily occurrence, they are too often completely ignored. It is common enough to hear a man say that "the missis is a rare good un, she's always at it," but he would, in all probability be considerably surprised to hear that she, in her quiet way, does

almost as much physical work in the course of the day as he does. When we see a woman sewing it very seldom occurs to us that the muscular exertion requisite for the performance of the act may, if carried too far, give rise to considerable pain and suffering, yet, for all that, the hard-worked sempstress knows well enough what it is to stitch, stitch, stitch, till her "eyes ache" with watching the needle, and the muscles which move the eyeball are thoroughly weary. Again, pregnant women often complain of the pain in the back resulting from the effort to keep about all day with the weight of an extra burden to support. Many ladies are familiar with the severe pain known as a "cutting-out pain," the result of the unusual strain thrown upon the muscles of the back in leaning over a table to cut out patterns. The amount of work which ladies, in even the upper classes of society, will get through in the course of the day and night is really something wonderful, and it is no wonder that they occasionally suffer from pain and stiffness in their limbs. Not very long ago a well-known physician was called up at three o'clock in the morning to go and see a young lady who was suffering from excruciating pains in her thighs and the calves of her legs. It was found on inquiry that she had been to a ball, and had danced with great spirit for six consecutive hours, the only rest which she had allowed herself being at supper. Such cases are not so uncommon as might be supposed, although the suffering is seldom sufficient to induce the patient to send for her doctor.

Sometimes this pain in the muscles is produced by acts at first sight so trivial in their nature, and in the amount of exertion which they require, that the relation of cause and effect is very apt to be overlooked. We often enough talk of "laughing till our sides *ache*," and many people habitually suffer from soreness, pain, and tenderness in the muscles of the chest and abdomen after a night spent with an irresistibly comic actor, but the true cause is often ignored, and the sufferer not unfrequently sends for the doctor under the impression that he has caught a bad cold, or that he is going to have an attack of pleurisy.

We have said that pain in the muscles is commonly the result of over-exertion. A person who is debilitated as the result of a long illness, or whose health is for any reason below par is very apt to suffer in this way, although the absolute amount of work done may be very small. A twenty-mile walk may not be over-exertion for a man in good physical condition, and he may feel none the worse for it, but, on the other hand, a weakly woman may suffer intense pain in the muscles from sitting up in bed for half an hour or so to take her meals.

In some cases attacks of muscular pain have undoubtedly arisen from excessive practice at the pianoforte. The performer commonly sits upright on a stool without the least artificial support, of course, with the exception of the corset in women; both hands are in perpetual motion; the body is moved from side to side according to exigencies of time and tune; the legs are used to work the pedals, and as singing is often combined with the instrumental music, the muscles by which the chest is moved are forcibly employed.

Custom and training will enable a person to undergo without fatigue an amount of work which he would otherwise find it impossible to accomplish. The well-tried pedestrian can laugh at the stiffness which the sedentary student experiences when

he suddenly throws off his quiet habit for more active physical work. The mason and the blacksmith toil with ease for a period quite impossible to the uninitiated ; but, set the mason on horseback, and the blacksmith to do duty as a hod-carrier, and they will both complain of stiffness, or muscular pain, on the next day.

As long as the relation between the work to be done and the power to do it remains the same, the exertion of the muscles may not be excessive, but whenever muscles weakened or reduced in power are obliged to do the same work as when they were strong, the exertion they put forth is excessive for them, the severity of the exertion being in proportion to their weakness.

It is astonishing how quickly, and by what apparently trivial circumstances, a man of even herculean powers may be "pulled down." A strong cigar or a pipe will in a few minutes reduce a person who is unaccustomed to the use of the "weed" to a condition of complete prostration. Fright will in an instant deprive a person of all power of motion, his tongue will cleave to the roof of the mouth, and he may be unable to articulate a word or even utter a sound. Most people know how quickly a sharp attack of diarrhoea "takes it out of one." A blue-pill and a black draught may in a few hours reduce the lion-hearted Richard to the level of the very lowest of the Saracen soldiery.

When one is out of health everything seems a trouble, and every little exertion gives rise to pain in the muscles. When we are well we can support the head, and keep ourselves erect all day long without fatigue ; but directly we are debilitated in any way we feel the exertion, and are glad to seek the friendly support of the sofa or arm-chair. We all know how heavy the eyelids seem when we are tired, and how difficult it then is from fatigue of the muscles to keep them open. Difficulties seem to increase as we become less able to cope with them. There is an old Spanish proverb which says that, "If you carry a lamb all day, it will become a sheep at night." It costs us no suffering while we are well to perform the ordinary work of the day ; but when illness has reduced our powers, when a refractory stomach has refused the necessary supplies of food, or when we have been brought low by accidents, loss of blood, diarrhoea, hunger, or other cause, we find the exertion excessive, and we suffer from pain in the muscles. As long as the school-girl is healthy and strong she can sit erect for hours, and at the end of the day feel weary only ; but as the influence of sedentary life, mental exertion, deficient appetite and digestion, a crowded sleeping apartment and schoolroom begin to be felt, the weariness becomes painfulness, and she is no longer fatigued, but is suffering.

There is scarcely any part of the body which may not be the seat of muscular pains, for they are to be met with wherever there are muscles or sinews. Some parts are, however, more frequently attacked than others—the trunk more commonly than the extremities, the abdominal walls oftener than those of the chest, and the legs more constantly than the arms. The pain may be felt between the shoulders, at the back of the neck, over the blade-bone, in the back, and in many other regions. Women very frequently suffer from a muscular pain under the left breast. It is sometimes situated on the right side, and is occasionally met with on both. The sufferings it involves are often very severe, and it is not unfrequently supposed by the patient to be a symptom of some very serious disease. Pregnant women often

suffer from a muscular pain, referred to a small spot about the size of a shilling just below the breast, commonly the right. The pain is pretty constant, slightly relieved by the recumbent posture, but increased by lying on the affected side; it may come on during the third month and last to the time of confinement, and from its wearing character is very apt to cause great depression. Another common seat of muscular pain is in the lower part of the body in front, and it is then sometimes erroneously supposed to arise from some disease of the bladder or womb.

Pain in the back is a very common form of muscular pain. It is readily produced by a long ride on horseback, by a long stand in a crowd, by digging or weeding in a garden, or by working in a position that requires much stooping. It is sometimes brought on by railway travelling, or by having to carry a heavy infant or other considerable weight for many consecutive hours. It is an accompaniment of many diseases, especially of those which are not sufficiently severe to make the patient lie up altogether, but are yet bad enough to considerably diminish the strength. It is often a cause of infinite trouble to those whose occupations necessitate the carrying on the head of heavy weights, such as water, stones, baskets of fish, fruit, flowers, &c., and is especially common in young men of all classes of society, whose health has been lowered by an excessive discharge or other similar cause.

Muscular pains under the collar-bones and over the front of the chest often follow prolonged efforts at vomiting or fits of coughing. In women they are not uncommonly produced by sewing, especially when the individual is unaccustomed to the work, or when the material consists of some thick, heavy substance, such as coarse calico, linen, or canvas. They are often associated with extreme tenderness of the breast, and sometimes even with slight swelling.

There is one form of muscular pain which, from the frequency of its occurrence and the ease with which, on a superficial examination, it might be mistaken for pleurisy, almost deserves a special notice. It is commonly known as pleurodynia, and is an affection of the muscles of the side of the chest. Many of us are acquainted with it under the name of "stitch in the side," and are aware that it may be produced even in perfectly healthy people, by running, or immoderate laughing, coughing, or sneezing. It is very common in delicate women, and even in men whose health has been reduced by an attack of illness or other similar cause. The pain is often confined to the left side. It is always increased by taking a deep breath, or by any movement which stretches the muscles. Before the introduction of the clinical thermometer it was frequently by no means an easy matter to distinguish between pleurisy and pleurodynia or false pleurisy. Nowadays, in the majority of cases little or no difficulty is experienced in making the diagnosis. Pleurisy is attended with fever, whilst pleurodynia is a non-febrile disease. If we take the temperature and find that it is not at all elevated, we may feel assured that it is not pleurisy from which the patient is suffering; but if, on the other hand, the temperature is distinctly raised, we are certain that we have to do with something more than mere muscular pain. Of course, the patient may be suffering from a cold, and this may be sufficient to cause the elevation of temperature, but the exercise of a little judgment usually suffices to eliminate this or any similar source of error.

Muscular pains are not unfrequently mistaken for symptoms of some disease of serious import, but there is no real difficulty in recognising the true nature of the case. The pain is usually spoken of as wearing, aching, burning, or "hot," but is occasionally referred to as a "weakness," or "soreness." In those who have much bodily fatigue for six days in the week, and a perfect rest on Sunday, the pains are always better if not absent on Monday morning, and very bad on Friday and Saturday. As a general rule muscular pains are absent in the morning, begin about noon, and increase in severity up to bed-time. They commonly cease entirely when the sufferer lies down in bed, but in bad cases they are only renewed by the recumbent posture. The pains are often attended with exquisite tenderness of the skin, so that even the contact of the clothes may be almost unbearable. They are usually traceable to over-work of some kind or other, although the circumstances which suffice to produce them are often apparently very trivial in their nature.

Having recognised the nature of the complaint, we must proceed to treat it. It is obvious that a disease which has been produced by over-exertion will be most benefited by rest—rest of the whole body, and more especially of the affected part. It is easy enough to recommend rest, but we are perfectly aware that in many cases it will be found difficult to carry out our directions. A woman very frequently cannot take sufficient rest, for the household duties fall upon her, and, as she says, "If I don't look after things, everything goes wrong." You tell a man to rest, and he says—"Rest! I only wish I could. I haven't had a holiday for years. If I don't work, who's to keep the wolf from the door?" There are a good many people who cannot rest, but there are a good many people who will not rest. Many women, for instance, are naturally too anxious, active, we might even say too fidgety, to take anything like a real rest. Men, commonly enough, recognise the fact that exhaustion, consequent upon continuous tension, invariably ends sooner or later in restlessness and irritability, but they too often neglect the great vital law of change, which runs through the whole universe, and impels the weary to cease from labour. Strangely enough the well-to-do are often the greatest offenders in this respect. It is the old story of much would have more, and thus we find the man who has a lucrative business, and who is making money fast, is the one most difficult to induce to take the urgently-needed rest. His excuses are innumerable. In vain it is pointed out to him that for his own sake, and for the sake of his family, rest is absolutely necessary. Ambition or the love of wealth leads him on, and he continues the battle until at length a crisis arrives, and then that cessation from work which might have been enjoyed at a convenient season and for a suitable period, is enforced, most probably at a very inconvenient time, upon a bed of pain and amidst sorrowing faces. Rest, to be of much service, must be thorough rest—rest, mental and physical. It is of but little advantage for a worn-down mother to go to the sea-side for the benefit of her health if she has to take all her little ones with her; or for an author to resort to the lake district with his pens, ink, and paper in undiminished array. Equally useless is it for the jaded belle to change the ball-rooms, theatres, concerts, and operas

of the town for the assemblies, dinner-parties, and picnics of the country. Rest is often useless because it is insufficient. Rest in an arm-chair, or on the sofa, may do good, but it is usually inferior to rest in or on the bed. For a delicate woman to get much benefit from rest, or to obtain relief from muscular pains, she should retire to her bedroom at two o'clock every day, and lie on her back for a good hour or more with no other companion than a readable book. If there is much constitutional debility another rest may be required about seven in the evening.

Where rest of the whole body is unattainable, it may perhaps be possible to rest the affected part. Any plan of treatment by which we rest, and at the same time support, the painful muscles will prove advantageous. We all know what relief a well-made corset or waist-belt will sometimes afford, when the pain or weakness affects the chest or abdomen, or the muscles of the back.

The fact that "stays" afford a considerable amount of artificial support to the body is easily shown by the consideration of a few simple facts. Women can, as a rule, sit upright considerably longer than men, she retaining her graceful position long after he has taken to lolling back in his arm-chair, or to exhibiting the soles of his boots on the sofa. Then again it is well known that ladies who have once accustomed themselves to the use of stays have the greatest difficulty in dispensing with their support, and that spasm or cramp is not unfrequently experienced in some of the erect-keeping muscles when they are laid aside. A person, therefore, without any artificial support is more obnoxious to muscular pain in the trunk than one who does not attempt to keep the body upright without assistance. Whilst recommending the use of stays for the relief of muscular pains about the body it must be distinctly understood that we are not advocating or defending the practice of tight lacing.

In addition to the use of stays, or in cases in which they fail to give the requisite relief, a good stout plaster applied well over the seat of pain and its immediate neighbourhood may prove more successful. It is necessary that the plaster, to do any good, should be large, and that it should be evenly applied. In some cases where a single plaster has proved useless, two or three applied one on the top of another have effected a speedy cure.

The importance of affording artificial assistance to parts that are subjected to any considerable strain is very generally recognised. We often see navvies who have to wheel heavy barrow-loads of earth, place a tight strap round the wrist, and there can be no doubt that they derive considerable help from this simple expedient. In like manner washerwomen, who have to do much wringing of clothes, apply a piece of ribbon to the same place and for the same purpose. Labourers who have much standing-work employ a belt, and the pedestrian not unfrequently ties a handkerchief tightly round his waist to prevent "stitch in the side." Swimmers sometimes use a tight garter round the calf with the view of warding off cramp.

For effecting a permanent cure, in addition to the local measures, steps must be taken to improve the general health. The benefit which may be derived from a judicious change of air and scene cannot be over-estimated. It is a commonly-received opinion, and in the main a correct one, that the change, to be of service,

must be from the bad air of town to the purer air of the country or the sea-side, but such is not always the case, for experience shows that a change from the country to a comparatively unhealthy town may do good. It is probable that in this case the benefit is derived rather from the absence of excessive mental or bodily labour, and in the presence of pleasant associations and companions, than from the mere change of air. Although we have strongly advocated the employment of rest in the treatment of muscular pains, we do not mean to imply that no exercise at all should be taken. On the contrary, we believe that moderate exercise in the open air will, in the majority of cases, be productive of much benefit by improving the appetite and promoting the circulation. When walking is too much for the strength, gentle carriage exercise might prove of benefit. Respecting the diet, all we need say is that the patient should live generously, and that stimulants may be used in moderation. When recovery is retarded by anæmia, indigestion, or constipation, the appropriate remedies should be applied, and these evils remedied with as little delay as possible. In weakly people purgatives are to be employed with considerable caution. People suffering from muscular pains are not unfrequently supposed to have congestion of the liver, and are consequently purged unmercifully, the only result being that the general tone of the whole system is lowered, and the pains are consequently increased. There is a case recorded of a man who, under the impression that his muscular pains were the premonitory symptoms of apoplexy, took purgatives to such an extent that he stated he had gone to the closet six times before breakfast, and twenty times during the day, and that the average of his visits was about fifteen times a day for at least three months. His method of treatment had materially increased the severity of the pains, and had reduced him to such a state of weakness that he had often had to rest on the bed while dressing, and had been unable to get up-stairs without assistance after his day's work was over. He rapidly recovered his normal condition of health on discontinuing the use of his purgatives. In the majority of cases of muscular weakness in which the bowels are confined a little brimstone and treacle, or the more elegant confection of sulphur or confection of sulphur and senna (Pr. 59) will effect all that is necessary. For those who do not like purgatives the following device may be adopted. A strip of coarse linen, about a foot broad, and long enough to go three times round the body, is wetted at one end sufficiently to admit of the damped part going round the body, the dry part of the bandage covering that which is wet and excluding the air; an attendant stands still, holding the dry end, whilst the patient applies the wet cloth and rolls himself up tightly and ties the strings to keep all snug. The bandage must be put on under the ribs so that the play of the lungs be not affected. It is worn night and day, and only removed to be re-damped, in the morning on getting up, at midday, in the evening, and perhaps again at night. This is an excellent plan, and nearly always keeps the bowels perfectly regular.

What should be our immediate treatment when a person is suffering from acute muscular pain? The patient should go to bed, and the affected part should be kept at rest by the application of a plaster or good strong bandage. An injection of morphia given under the skin, or either twenty drops of laudanum, or twenty grains of chloral in a little water, will usually produce sleep, and ease the pain. A mixture

of oil and laudanum well rubbed into the part often proves more successful than any other mode of treatment. The frequent application of hot poultices may do good, but they are, as a rule, inferior to the methods we have already mentioned. In chronic cases, freezing the part by means of the ether spray may be tried; sometimes the pain is removed by a single application. The use of iodine ointment is indicated in obstinate cases where there is tenderness of the muscles, but the skin can be pinched without causing any unusual pain. It should be remembered that this is a mild application, and that it should therefore be rubbed into the part two or three times a day. Chloride of ammonium, in twenty-grain doses, dissolved in water and mixed with an equal quantity of milk, often does good.

The stiffness and aching of the muscles which commonly follow an unusually long walk may in the majority of cases be prevented by at once wrapping oneself in a dripping wet sheet, and then getting a thoroughly good rub down. When the stiffness has already set in it may be removed by taking a drop of tincture of arnica every ten minutes for the first hour, and subsequently hourly, in a little water.

Sufferers from myalgia often derive great benefit from a temporary residence in a hydropathic establishment. This mode of treatment is especially to be recommended in the case of the man of pleasure accustomed to lead an irregular, luxurious, or indolent life. The system is full of enjoyment, and the simple diet of the water-cure patient is relished with a gusto unknown to the pampered slave of calipash and calipee—to those comfortable *gourmets* who begin dinner with soup, fish, and *paté*, washed down with two or three glasses of sherry. The post-prandial lightness of spirits more than compensates for any amount of abstinence.

In pleurodynia the importance of rest of the affected part is as great as in any other form of muscular pain. There are, however, certain accessory modes of treatment, which, in addition to those which we have mentioned when speaking of muscular pain generally, may be employed with advantage. Thus, in obstinate cases, a mixture of chloral and camphor may be used as a local application. When equal parts of these two substances are pounded up in a mortar they form a syrupy liquid which, when painted on the painful part, or gently rubbed in, often affords speedy relief. A blister applied over the seat of the pain often does good, although from its weakening effect on the patient it may increase the pain for a day or two. It is just possible that the blister makes the part so painful that the patient carefully abstains from using his muscles, and thus, by giving them a rest, derives benefit. Belladonna liniment often affords marked relief in pleurodynia. It should be rubbed over the tender and painful part several times a day, according to the severity of the pain. Sometimes a belladonna plaster, from the support which it affords, succeeds where the liniment has failed. When pleurodynia is associated with some derangement of the womb, *actæa racemosa* is the appropriate remedy. It is especially indicated in pain under the left breast occurring in women. Small doses taken frequently of a tincture prepared from the common buttercup (*Ranunculus bulbosus*) have been known to succeed in cases of pleurodynia where other remedies have been tried in vain.

PALPITATION.

As a rule, we are not sensible of the beating of our hearts, but when the pulsations become inordinately forcible they make themselves felt, and the sensation is in many cases a most troublesome and distressing one. Palpitation implies increased force, or increased frequency, or an increase both in force and in frequency, of the contractions of the heart. The pulsations are sometimes tumultuous also, and irregular as well as unduly forcible and frequent, but this is not necessarily the case. The irregularity in the heart's action may be experienced not only by the patient himself, but may be obvious to others. Sometimes a few rapid and feeble pulsations occur at uncertain intervals, and are followed by others that are fuller and slower. Sometimes one or more beats are left out, the next beat, as if to make up for the pause, being unusually strong. The intermissions may be unperceived by the patient himself; but often they are attended with a singularly disagreeable fluttering or trembling sensation in the breast. There may be a variety of attendant symptoms occurring singly or in groups, the most prominent being a sensation of choking, a feeling as if the heart were jumping into the throat, and the eyes bursting from the sockets, pain over the region of the heart, faintness with actual loss of sensibility or partial unconsciousness. The pain rarely amounts to more than a sense of dull aching soreness, but in exceptional cases sharp twinges occurring in paroxysms may be experienced. Shortness of breath rarely occurs to any notable extent, but it does sometimes, giving the patient the appearance of a person out of breath with running, singing in the ears, giddiness, and confused vision, headache, a hot head and flushed face, with clammy coldness of the hands and feet, may be added to the list of disturbances. In rare cases the eyeballs seem to enlarge and protrude to an unnatural extent from the orbits, and this may be accompanied by enlargement of the throat. In some instances palpitation is more or less permanent, but in the majority of the cases it comes on in paroxysms lasting for an hour or two, or perhaps only for a few minutes, and then passing off again. In young persons of a delicate constitution it often occurs, in a slight degree, nightly; so that the patient on going to bed passes many hours sleeplessly, not only feeling his heart beat, but hearing it. His subsequent sleep is unrefreshing, and he awakes in the morning more tired and jaded than when he went to bed. A fit of palpitation often terminates in sleep, and in the case of hysterical women, a copious discharge of watery urine may occur at the time of release. The time during which a patient remains subject to these attacks varies infinitely, as does the duration of the intervals of freedom. In some cases, as, for instance, in young women suffering from "whites," the palpitation is constant, the pulse beating for many days at 150 or 180 strokes in the minute. In very severe cases the pulse has a mere vibratory motion, and cannot be counted, whilst its rhythm is extremely irregular.

The subjects of palpitation are usually of the nervous type, persons in whom the nervous element predominates, and who are what is called emotional or susceptible. Thus the nervous constitution of the female sex renders women more liable to it than men. Further, temporary causes affecting the emotional nature increase this susceptibility, as, for example, sudden surprise, excitement, anxiety, or mental shock.

Certain periods, as the commencement of the menstrual flow, and a short time before it, render females periodically liable to it. It often comes on after excessive indulgence in tea or tobacco. It is common in the subjects of Bright's disease, and in those debilitated by any chronic illness. Youth, too, is more subject to palpitation than adult life. It rarely occurs in those under fourteen, except as the result of some sudden start or shock; but it is frequently met with in middle-aged adults, in women chiefly, but also in nervous men. The more the nervous system in men approaches the feminine type, the more likely are they to suffer from palpitation. There is, however, a great diversity in this respect—some women seem as little likely to suffer from palpitation as the majority of men do to become pregnant.

Palpitation of the heart often depends on a disordered condition of the stomach; in fact, it is more frequently due to that cause than to any other. Palpitation may occur as a symptom of stomach derangement even when indigestion causes no other inconvenience. We have already related a case in which persistent palpitation resulted from excessive indulgence in tea (*see DISEASES OF THE HEART*). The active principle of tea—theine—is a powerful neurotic agent, and when indulged in to excess has a very decided action upon the heart, rendering it irritable, excited, and irregular in its action. In such cases the withdrawal of the tea is absolutely essential to successful treatment. Regarded chemically, the composition of coffee or cocoa is closely allied to that of tea, and it is not easy to believe that the symptoms produced by excessive indulgence in tea are relieved by substituting for it those of allied vegetable products, but so it is. It is said that tea contains, in addition to its principle, theine, a volatile intoxicating oil, and it may be the presence of this agent which makes the difference. We conclude that palpitation is due merely to stomach disorder when it occurs occasionally only, when the action of the heart is perfectly regular in the intervals, and when there are no other symptoms of heart disease.

In the following table the more prominent characters of the palpitation depending on organic disease of the heart are contrasted with those of palpitation arising from other causes :—

Palpitation depending on Disease of the Heart.

1. More common in men than in women.
2. Usually comes on slowly and gradually.
3. Constant, though more marked at one time than another.
4. Often not much complained of by the patient, occasionally attended by severe pain extending to the shoulders.
5. Beat against the chest usually stronger than natural; sometimes remarkably increased, heaving and prolonged; at others irregular and unequal.
6. Lips and cheeks often blue; countenance congested; dropsy of the lower extremities common.
7. Palpitation increased by stimulants and tonics, but relieved by rest.

Palpitation arising from other causes.

1. More common in women than in men.
2. Usually sets in suddenly.
3. Not constant, having perfect intermissions.
4. Usually much complained of by the patient; readily induced by mental emotion; and frequently accompanied by pain in the left side.
5. Beat neither heaving nor prolonged; often abrupt, or knocking, and accompanied by fluttering sensation at the pit of the stomach.
6. Lips and cheeks never livid; countenance often pale; dropsy absent, except in extreme cases.
7. Palpitation increased by sedentary occupations, relieved by moderate exercise, and by stimulants and tonics.

As a rule, patients with heart disease complain but little of palpitation, whilst those with digestive derangements often regard it as the essence of their malady. That palpitation is in the majority of cases merely functional is evident from the number of young persons who suffer from it, and who afterwards attain a hale old age. In young people especially, every passion and every affection acts on the heart and changes its healthy beat, and over-exertion, or any little error in diet, may produce the same result. In some instances palpitation arises from prolonged mental application and over-work, as in the case of literary men, barristers, and others whose pursuits are psychical rather than physical. Occasionally palpitation is met with as a symptom of retrocedent gout—the pain in the joints suddenly subsides, and then the sufferer complains of his heart.

And now as to the future of these cases. Do people get cured of palpitation, or do they die of it? Nine times out of ten they recover completely. It is very essential to bear in mind that palpitation is not only not invariably associated with grave disease, but that it is often a mere nervous abnormality of little or no importance. This is also true of intermittency of the heart's action. A recent writer says: "On mere intermittency of the heart alone, no practitioner is justified in giving an opinion as to the existence of heart disease. The suffering and misery entailed by hasty medical opinions as to the existence of heart disease of a grave character, and its proneness to sudden death, is something fearful to contemplate. I know well a hale north-country yeoman of unusually fine physique, whose peace of mind, years ago, was ruined by a rash medical opinion, formed most unjustifiably, and so strong was the impression then made, that no amount of assurance of his health can free him from the terrible bondage of this idea." Palpitation of violent character, such as obtrudes itself forcibly on the patient's attention, is more decidedly the characteristic of some nervous affection than of organic disease of the heart. In heart disease, palpitation is often to be regarded almost as a good sign, affording evidence as it does that the heart has still strength to palpitate. Before doing anything in the way of treatment it is very important to make sure of the diagnosis. If after reading our description you have any doubt whether your palpitation is due to heart disease or not, you had better go to a doctor and get him to decide for you. It is of no use trying to treat yourself if you are not sure what you are suffering from. If you at any time in your life have had rheumatic fever, and suffer from palpitation, we should advise you to get your chest examined.

The treatment of nervous palpitation is not a very difficult matter. When an attack comes on the patient should be made to lie flat on his back, the neck and chest being bared, and a liberal allowance of fresh air insisted on. A little sal volatile may be given in a wine-glassful of water, or a bottle of eau de Cologne may be held to the nose to smell. It is important to avoid all appearance of alarm, and to avoid exuberant sympathy. When the palpitation has been induced by a sudden effort, rest, quiet, and the administration of a little stimulant, with the addition of fifteen drops of either tincture of belladonna or digitalis, will be found useful. Cold brandy-and-water can always be obtained in an emergency, and is an excellent remedy for occasional use. When the attack is over, treatment must be directed to

the improvement of the general health. When the palpitation is due to a finely-strung and over-susceptible nervous temperament, we cannot hope that medicine will prove of much avail, but quiet, mental and bodily, and avoidance of all exciting pursuits, are indicated, whilst any temporary derangement of the bowels and stomach should be seen to without delay. When the occupations are chiefly sedentary, outdoor exercise, with plenty of fresh air, should be tried. Cold or tepid baths are of essential service. As has been very truly said, "the excitement of modern fiction is not without an effect on the emotional nature of its votaries, who become as abandoned to this form of intemperance as others are to the use or abuse of other stimulants." The enthralling plot which the victim to novel-reading demands is allied to the cry for brandy of the toper; slighter stimulants are inefficient and powerless. The desirability of removal from the circulating library is obvious, and exercise, other interests and occupations, and rational mental pabulum are necessary. When there is more than ordinary disturbance of the nervous system, the administration of bromide of potassium (Pr. 31) may prove useful. Disturbed rest is better met by early rising, active exercise, and light suppers, than by opiates or other narcotics, or even by morning slumber. When the liver is sluggish, nothing acts better than a blue-pill and black draught. When there is obvious derangement of digestion, the gentian and soda mixture (Pr. 14) taken half an hour before meals answers admirably. Attention must of course be paid to diet, mutton and beef being taken in preference to pork and veal. In some cases nothing agrees so well as boiled mutton. Pastry is seldom admissible, and the same may be said of cheese, nuts, and many other articles of diet that are ordinarily reputed to be indigestible. For flatulence nothing succeeds better than three drops of oil of cajeput taken on a piece of sugar when the wind is troublesome.

Of the specific remedies for palpitation, digitalis is one of the best. Two table-spoonfuls of the perchloride of iron mixtures (Pr. 1 or 2) may be taken three times a day for a week, with the addition of ten drops of tincture of digitalis to each dose. The infusion of digitalis often proves more effective than the tincture. A drachm may be taken twice a day in the iron mixture, or, better still, alone. Tincture of aconite often proves useful; it should be given in from one to three-drop doses in water three times a day. It will succeed admirably if added to the iron (Pr. 1 or 2) or gentian mixture (Pr. 14). Five-drop doses of tincture of belladonna in water three times a day sometimes succeed admirably. The belladonna plaster applied over the region of the heart is a capital remedy. It should not be smaller than six inches by four. We have ordered it in hundreds of cases with the greatest success. To make a plaster adhere firmly, first wash the part with soap and warm water, then dry it thoroughly with a soft towel. After waiting an hour, warm the plaster before the fire and apply it smoothly. A plaster with creases in it is most uncomfortable, and is worse than useless. If properly put on, a good plaster will last a month or more. It matters not whether the palpitation be due to heart disease or the functional derangement of the stomach, it will do good. It should be kept on till it comes off by itself, or until it gets wrinkled and uncomfortable, when it may be taken off. Its only possible disadvantage is that it sometimes produces a little eruption of pimples, or a rash not unlike that of scarlet fever. In that case the plaster will have to

be taken off. Should the plaster cause this irritation of the skin, it may be punched with holes at regular intervals so as to admit of the escape of the retained perspiration. These porous plasters are often very useful. We can warmly recommend the belladonna plaster in the treatment of palpitation. Its application does not, of course, in any way limit the choice of internal remedies. Mustard poultices applied over the region of the heart often help to regulate its action; they lessen the feeling of distress, and cannot possibly do any harm, even if they do no good. When there is any suspicion of gout, colchicum must be given. Tincture of musk and caffeine are remedies that occasionally prove useful in palpitation.

As accessory measures, abstinence from tea and tobacco is very essential. The effect of tobacco is to render the heart's action quicker, its beat feebler, and to promote a liability to palpitation. There is a distinct functional derangement of the heart which is recognised and known as "smoker's heart." In many instances this condition arises from great indulgence in strong tobacco, and frequently the substitution of a lighter form of tobacco in moderation is sufficient to afford relief without the abandonment of the favourite habit. We recently met with a man whose palpitation had for years resisted treatment, simply because he consumed three or four cigars regularly every day of his life. Many of the London poor—the women especially—live almost exclusively on weak tea and bread-and-butter. It is hardly to be wondered at that they suffer from palpitation, and form so large a contingent of our hospital out-patients. The great thing is to get them to substitute milk or cocoa for tea. Soberness in the use of alcoholic stimulants is important. It is really wonderful what a quantity of drink many people consume in the course of the day. Not so very long ago a patient told us that his usual allowance was four or five pots of beer, with a "go or two" of rum or rum-and-milk, in the morning, to "pull himself together." He added that of course that did not include a glass or two if he met a friend, "which didn't count." He expressed considerable surprise on being advised to reduce the quantity, and said that he always considered himself "a very sober man." He added, by way of explanation, that he was a barman, and was "always in it;" and that, as it didn't cost him anything, he didn't see how it could do him any harm. This is by no means an exceptional case; and when a man assures you that he is not taking too much, it is desirable to obtain from him some idea of what he considers to be "too much." The free use of wine and spirits in the intervals of the attacks of palpitation not only renders the patient more subject to them, but deprives him of one of his chief aids during their occurrence. There is no occasion to abstain altogether from the use of alcohol—a pint of beer a day, or three glasses of sherry or port, can do no one any harm. Experience alone will teach the sufferer what kind of alcohol may be taken with least discomfort. People subject to palpitation should not hurry themselves. Take a rest going up-stairs, for example; never get excited, and rather lose a train than hurry to catch it.

PARALYSIS.

By paralysis, or palsy, is meant impairment or loss of power or sensation in some part of the body. Sometimes only one side is affected, and then it is technically

called *hemiplegia*, at others the loss of power is confined to the legs, and then we say it is a case of *paraplegia*. Then, again, the paralysis may be local, only a small portion of the body, as a limb, a foot, or the face, being involved. In many instances the affection is due to brain disease, and immediately follows a shock. Not unfrequently the brain is unaffected, the disease being in the spinal cord, or spinal marrow, as it is called. Sometimes even it is the nerve itself which is at fault.

That variety of paralysis which we have called *hemiplegia* is the most common form of palsy. It usually comes on suddenly, and is spoken of as a paralytic stroke. Almost invariably both arm and leg are paralysed, and the left side suffers more frequently than the right. The loss of power is very striking. The patient may *will* the motion of his leg or his arm, but neither of them any longer obeys the act of volition; if they are lifted by a bystander, and then let go, they drop down like logs of wood. This is a condition very painful to witness, for the powerful man, full of health and strength, is in a moment reduced to the condition of helplessness of a little child. One side is for the time being dead. When only one limb suffers it is usually the arm. Often enough this condition is accompanied by some loss of power over the movements of the face. Sometimes the mental faculties remain intact, but very often the memory becomes weakened, and there is a peculiar tendency to shed tears and to become distressed by slight causes. In paralysis of the right side there often co-exists that peculiar loss of the faculty of language which we have described under the title of *APHASIA*. In *hemiplegia* from disease of the brain, although the sufferer cannot, by his own will, move the palsied limb, yet the irritation of the sole of the foot will often excite active movements, the involuntary action causing no little astonishment to the patient. Supposing recovery to take place, the symptoms of amendment are usually first noticed in the leg. Besides the palsy there is mostly loss of sensation also, but this is by no means so constant a symptom as the paralysis. When the sensibility is lost or blunted it is so, commonly in the same parts that are affected with paralysis. But sometimes there is loss of sensation and no palsy, and, more strange still, there has been sometimes loss of feeling on one side and loss of the power of motion on the other. It must be remembered that these palsied parts do not resist the influence of cold and heat so well as the sound parts. They readily get chilled if exposed to even a very moderate degree of cold. One has always to be careful in applying hot-water bottles or hot bricks to the feet of the paralysed, for the parts may get blistered or scalded without the patient experiencing any pain. In this affection the attendance of a doctor is necessary. As a rule, good feeding, with the administration of tonics, is to be enjoined.

Paraplegia, or paralysis of the lower half of the body, usually arises from some disease of the spinal cord. It most frequently commences slowly and insidiously with weakness and numbness of the feet and legs, or with tingling and a creeping sensation in the parts, unattended with pain. By degrees the weakness increases until there is complete loss of sensibility and motion of the lower extremities, with perhaps some affection of the bladder or bowels. Although the power of moving is completely lost in the lower limbs, the patient is not uncommonly rendered sleepless at night by painful spasmodic twinges and startings in the parts. *Paraplegia* may be the result of some injury to the spinal cord, or it may proceed from the pressure

of a tumour or other causes. Sometimes it follows the immersion of the lower part of the body for some time in cold water. In one case the patient had been in the habit of wading for hours together in a river while fly-fishing. Much good may often be done by medicinal treatment in these cases. The remedy to give is extract of physostigma. It is made into little pills, each containing a thirty-second of a grain, and one of these is taken every three hours during the day-time, and also at night if awake. In three or four cases we have seen considerable benefit derived from the adoption of this mode of treatment. The sooner the physostigma is taken, the greater is the likelihood of its doing good. In old-standing cases the treatment may have to be persisted in for some weeks, or even months. These patients require the greatest care and attention, and it is extremely difficult to keep them clean and dry. The great thing is to avoid bed-sores. The parts on which the pressure is greatest should be examined almost daily to make sure that there are no signs of redness. The skin may be hardened by the occasional application of a little alcohol in the form of brandy or eau de Cologne, rubbed in with the palm of the hand. A mixture of oxide of zinc and starch, in equal parts, forms an excellent dusting powder. One of the best preventives of bed-sores is glycerine or glycerine cream. The parts exposed to pressure should be washed morning and evening with tepid water, dabbed quite dry with a soft towel, and then gently rubbed over with a little of the glycerine or glycerine cream. A draw-sheet, made of linen, and sufficiently large to be firmly tucked in at both sides of the bed, will prevent the bedclothes from getting soiled. When people have of necessity to pass the whole of their time in the horizontal posture, it is a capital plan to have two beds placed side by side, and to move them occasionally from one to the other. The question of getting a water-bed is in many cases well worth considering.

Locomotor ataxy is a disease closely allied to, though not identical with, paraplegia. There is loss of control over the movements of the legs, but there is no actual paralysis. When the patient attempts to walk, instead of the leg dragging after him as it does in true paralysis, it is suddenly jerked out in a most peculiar manner, just as if it were trying to dance a "break-down" by itself. The patient can move the limb, but not in the way he wishes. The power of guiding the muscles aright is quite gone. It is not a common disease, but we recently had a case of this description under our care, and succeeded in doing him some good. He was a tall, thin, wiry-looking man, the foreman in a large warehouse in the city. He had always been accustomed to lead an active life, and could, as he said, "walk, run, or jump with anybody." He lived five miles from his work, and "did the journey, twice a day, in and out, under the hour." After a time he noticed a feeling of uncertainty in his walk, and "a little giving way in his knees;" in fact, to use his own expression, he was "like a horse that had been hamstrung." Soon he felt that he could not run so well, and he gave up his morning and evening walk, taking the omnibus to and from his work. In a little while he felt afraid to jump on the omnibus whilst it was in motion, and took to hailing it so that it might stop for him. As time went on he felt afraid to get on the roof or knifeboard, and went inside. He next noticed that he staggered a little in his walk, and suddenly received notice of dismissal from his employers without any reason being assigned. He was at the

time quite unable to account for this, but on consideration has no doubt he lost his place in consequence of his staggering having been attributed to the effects of drink. For two years he endeavoured to obtain employment, but unsuccessfully, and being in trouble and distress, paid very little attention to the condition of his health or the progress of his complaint. At the expiration of that time his powers of walking were found to be greatly affected. On attempting to take a step, the leg was thrown up in the air, and then brought down violently, the heels first coming in contact with the ground. He could walk for a short distance, but was obliged to take every opportunity of steadying himself by the table and other articles of furniture about the room. His greatest difficulty in locomotion was in crossing the road, and going round corners. Stepping on the curbstone was always a difficult and delicate operation. He would often walk in the road until he came to a lamp-post by which he could assist himself on to the pavement. He was quite unable to stand alone in the dark, and merely turning out the gas would cause him to fall almost as if he were shot. There was no true paralysis, for when the patient was in bed he could move his legs in any direction. He suffered greatly from pains in his limbs, which he described as being "sharp, rheumatic, spasmodic, like toothache." He derived considerable benefit from taking physostigma. He had some pills given him, each containing a thirty-second of a grain of extract of physostigma, and of these he took one, six or eight times a day, for three or four months. At the end of that time he could walk very much better, and could cross the street, and step from the road on to the pavement with comparative ease. At times he could walk almost as well as ever, and there was distinct improvement in other respects. The physostigma did him a great deal of good, in spite of the fact that from domestic and other reasons he was very unfavourably situated for carrying out systematically any plan of treatment.

Facial paralysis is a variety of palsy in which only the muscles of the face are affected. It most commonly arises from cold, as when a person is exposed to a draught in driving or in a railway carriage, but it sometimes arises from rheumatism, and other causes. The appearance presented by a patient affected with facial palsy is peculiar and very striking. He cannot knit the forehead, neither can he raise the eyebrows or draw them together. The eye remains open, as the power of closing the lids is lost, and their blinking movement no longer exists. From one-half of the countenance all power of expression is gone; the features are blank, still, and unmeaning; the eyelids apart and motionless. The other half retains its natural cast, except that in some cases the angle of the mouth on that side seems a little awry. The patient cannot laugh, or weep, or frown, or express any feeling or emotion with one side of his face, while the features of the other may be in full play. Further, the patient cannot whistle, for he is unable to purse up his mouth for that purpose, and for the same reason he can neither spit nor distend his cheeks with air, or blow wind from the mouth. In mastication portions of food are apt to collect between the cheeks and gums, as the support of the lips and cheek necessary for its proper performance is lost. The saliva and fluids frequently trickle from the mouth. At the same time it must be remembered that this particular form of palsy is much less serious than the other forms we have

been considering, for if unaccompanied by palsy of the limbs there is really no cause for anxiety. It is often supposed that the patient has had a stroke, and is in imminent danger; but such is not the case. Sometimes the loss of power over the movements of the face is accompanied by loss of sensation in the corresponding part. Usually, sight is unimpaired and the tongue is unaffected, but the articulation of some words formed by the lips may be difficult. Facial palsy may have a duration of from ten days to as many weeks; perhaps three or four weeks may be regarded as the ordinary duration. Cases arising from cold or rheumatism nearly always do well. Now as to the treatment. Hot fomentations are useful at an early period of the complaint. Later warm douches, shampooing, and galvanism may be resorted to. When there is any suspicion of a syphilitic taint, iodide of potassium may be used with advantage (Pr. 32). Should a rheumatic or gouty habit be found in connection with the palsy, colchicum (Pr. 33) or perhaps lemon-juice might exert a beneficial influence. Iron (Prs. 1—7) is likely to be useful when an anæmic condition of the system exists. For *Hysterical Paralysis*, see HYSTERIA.

PERITONITIS.

By Peritonitis is meant inflammation of the membrane lining the abdomen. It may occur in either sex and at all periods of life. It may come on from cold or even without any apparent cause, and it may frequently occur in women who have been recently confined, constituting a very serious complication. The prominent symptoms are high fever and intense pain in the stomach, aggravated by the slightest movement, or even by coughing or sighing or taking a deep breath.

These are not cases in which home treatment will avail you much. You had better send for the doctor. In the meantime let the patient get to bed, give him the Aconite Mixture (Pr. 38), apply linseed-meal poultices or hot fomentations to the abdomen, and let him have ice to suck.

PILES, OR HÆMORRHOIDS.

The terminal portion of the bowel—the rectum—is subject to derangements as numerous and varied as any organ of the body, although for obvious reasons we ordinarily hear very little about them. These complaints not only cause intense suffering, but give rise to an amount of depression and anxiety quite out of proportion to their gravity. They usually spring from habits prejudicial to health, being either engendered by sedentary pursuits or the result of over-indulgence in the luxuries of civilised life.

Piles, or hæmorrhoids, occur both in men and women, and are usually not met with until middle age. Amongst circumstances favouring their formation may be mentioned pregnancy, habitual constipation, the frequent use of powerful purgatives, straining at stool, rich living, insufficient exercise, hereditary tendency, and a long residence in tropical climates. They are much more prevalent in the upper classes of society than amongst the labouring population. The latter live plainly, take plenty of exercise in the open air, and seldom suffer from constipation.

We shall discuss this complaint chiefly from a medical point of view. Of

surgical operations, the use of the knife, the ligature, and acid, we have nothing to say. They are in many cases of inestimable value, but it is undesirable to submit to any operative procedure until it has been clearly demonstrated that medicinal treatment has failed.

There are many valuable remedies for piles, some of which ought, in every instance, to afford relief. For bleeding piles nothing equals the tincture of *hamamelis virginica*. It is almost a specific, and many doctors who have used it extensively say they have never known it fail. It is to be used in those cases, and in those cases only, in which the piles bleed. Its use is especially indicated when there are, in addition to bleeding piles, enlarged or varicose veins of the legs. A tea-spoonful of the tincture of *hamamelis* is to be put in an eight-ounce bottle of water, and of this three tea-spoonfuls are to be taken every three hours. It is not to be given with any flavouring agent, or with any other medicine. In addition to taking the *hamamelis* it is necessary to apply it locally. A *hamamelis* lotion is made by adding two tea-spoonfuls of the tincture to half a pint of water, and when the piles are external this is to be applied to the part by means of two or three folds of linen covered with oiled silk, and renewed several times daily. When the piles are internal some of the lotion is to be injected with a syringe or injection apparatus into the back passage two or three times a day. We can almost guarantee that in the cases we have indicated *hamamelis* will effect a cure. The best and cheapest way is to buy a couple of ounces of tincture of *hamamelis virginica* from the chemist, and make your own lotion. Mind you get the strong tincture, and not any weaker preparation or dilution. All you have to do is to put two tea-spoonfuls into half a pint of water, shake it up, and it is ready for use. Many chemists keep an ointment or cerate of *hamamelis*, which for external piles is more convenient to use than the lotion. It should be applied to the parts after the morning bath, and again after each motion. If you have bleeding piles you may get rid of them almost to a certainty by using *hamamelis* as we have directed. We recently cured with this drug a gentleman who had suffered from hæmorrhoids for over thirty years. He had been an officer in the army, and his complaint was attributable to excessive riding. He was for ten years in India and China, and since his return had lost blood almost daily. He had been operated on twice without any permanent benefit, and had quite given up all hope of obtaining relief. He used the *hamamelis* lotion every morning after his bath, and also after every motion, and in less than a week the bleeding had ceased.

Hydrastis canadensis is another remedy which enjoys a high reputation in the treatment of piles. Internal piles, which cause great prostration of strength, and are accompanied by various dyspeptic symptoms, giving rise to considerable pain during defecation, and frequent attacks of bleeding with a little discharge of mucus or matter, are cured, or at all events materially relieved, by the use of *hydrastis*. A lotion is made by adding a tea-spoonful of the tincture of *hydrastis* to half a pint of water, and some of this is injected into the back passage night and morning. In addition five drops of tincture of *hydrastis* are to be taken in a wine-glassful of water three times a day. In the case of external piles *hydrastis* is often of great value, the lotion being used three or four times a day, just in the same way

as the hamamelis lotion ; or the drug may be applied in the form of a cerate or ointment.

A tincture made from horse-chestnut (*Æsculus hippocastanum*) is used for some kinds of piles. When the piles are due to congestion of the liver it will usually be found to be inferior to nux vomica or sulphur, of which we shall speak presently. When the piles are associated with enlarged veins in the legs, and bleed much, hamamelis is a better remedy. But when the only associated symptom or appreciable cause is a confined condition of the bowels, æsculus is the drug to be employed. The dose is three drops of the tincture in a little water every three hours, and a lotion or injection may be made by adding two tea-spoonfuls to half a pint of water.

Nux vomica is useful for piles which do not bleed, especially when the patient also suffers from dyspepsia, congestion of the liver, and confined bowels. From five to ten drops of the tincture of nux vomica may be taken in a tumblerful of cold water twice a day, half an hour before breakfast and dinner. It usually acts as a laxative, and will often overcome the most obstinate constipation.

In ordinary simple cases of piles it is a good plan to keep the bowels moderately relaxed by occasionally taking a tea-spoonful of some electuary, such as confection of sulphur or confection of senna. We have already given a formula for a confection containing both sulphur and senna (Pr. 59), and this usually answers admirably. The old-fashioned sulphur and treacle is as good as anything. These laxatives should not be employed when any of the specific remedies for piles, such as hamamelis, hydrastis, or horse-chestnut, are being administered. As a local application the ointment of galls and opium is extremely useful, and often affords great comfort to the sufferer.

When piles become inflamed, the best remedy is tincture of aconite, a drop in a tea-spoonful of water every ten minutes for the first hour, and subsequently hourly until the pain subsides. For the excessive pain often associated with piles an aconite lotion may be employed in addition to its internal administration. The lotion is made by adding two tea-spoonfuls of the tincture of aconite to half a pint of water.

Sufferers from piles would do well to use what is called medicated paper or curl paper. It can be procured in packets at any chemist's. When the piles are very painful it may be necessary to use a piece of sponge dipped in cold water. It is said, but with what truth we know not, that the printer's ink in newspapers is injurious, and by the irritation it causes favours the development of piles.

Many people who think they have piles are in reality suffering from fissure. A fissure is a small chap, crack, or ulcer situated just within the anus, or orifice of the bowel. It occurs most commonly in women, and especially in those of a weakly constitution. The sufferer complains of pain, usually of a severe burning character, on the passage of a motion, especially if a hard one ; occasionally it occurs at the time of defecation, but more frequently it commences a few minutes afterwards, and it may continue for two, four, or even eight hours. This pain is very severe, and peculiarly wearing and burning. It may extend all round the hips and even down the thighs. Sometimes it gives rise to irritability of the bladder, or even to symptoms similar to those resulting from derangement of the womb. Often enough there

is a good deal of constitutional irritation, the nervous system generally being deranged in, as we say, sympathy with the local irritation. The pain produced by an evacuation is sometimes so severe that the patient avoids defecation as long as possible, and even abstains from food with the view of lessening the necessity for the frequency of the act. If you have reason to suppose that you are suffering from fissure and not piles, we advise you to consult your doctor at once. We give this advice, not because the complaint is a dangerous one, but because it is so situated that it would be well-nigh impossible for you to make an application at all satisfactorily without some assistance. It is of little or no use applying to a non-medical friend to help you, for the fissure is so small that it would probably escape the notice of one untrained in the investigation of such matters. On consulting your doctor you will, of course, say at once that you have reason to suspect that you have fissure of the anus. There is often a great deal of mock modesty about these matters, and the doctor often obtains the required information only after a considerable amount of beating about the bush. You will find that it will simplify matters if you say at once what it is you think you are suffering from.

Fistula of the anus is another complaint we have known mistaken for piles. It usually forms as the result of an abscess, running up by the side of the gut. Sometimes it follows kicks, blows, or bruises on the lower part of the body. Here, again, little or nothing can be done without the assistance of a medical man. The mere fact of its position renders it almost impossible to treat it without extraneous help.

Before leaving the subject of piles, we will say a word or two about diet and other accessory measures. When the complaint occurs in debilitated persons, benefit will be derived from a tonic and nutritious plan of treatment. In the great majority of instances, however, more particularly when occurring about the middle period of life, piles are connected with a plethoric state of the system, and then we recommend abstinence from coffee, peppers, spices, and all stimulating and highly-seasoned food. In these cases, too, beer, wine, and spirits must be taken in the very strictest moderation. The best drink—at all events for the summer months—is a light claret. A liberal supply of well-cooked vegetables, and plenty of ripe, wholesome fruit, is enjoined. Sedentary habits, and the habitual use of soft cushions and feather beds, undoubtedly favour the formation of piles, and do much to retard the progress of a cure. The pain attending piles which do not bleed may often be relieved by washing the parts with cold or tepid water. In an attack of bleeding piles, it is a good plan, in addition to bathing the part, to drink a tumblerful of cold water, and then to lie down for an hour or two. The horizontal posture is conducive to recovery. In many cases of piles, great relief follows an occasional injection of about a pint of water into the lower bowel. It acts beneficially by constricting the blood-vessels, and it also gives tone to the relaxed tissues, and softens the motions before evacuation. When piles are very painful, the unfortunate sufferer may obtain relief by sitting over the steam of hot water. When the attack is a very severe one, he may have to keep his bed, or recline for the greater part of the day on a couch. People troubled with piles often find it a good plan to acquire the habit of going to stool at night, immediately before retiring to rest, instead of in the morning, so as to obtain the benefit of a long rest in the horizontal position after each motion.

PLEURISY.

Pleurisy is a complaint essentially unsuited for domestic treatment, and the object of this article is not to teach people how to cure themselves, but to place before them certain facts that will enable them to recognise the disease when present, and to indicate the necessity for obtaining medical assistance.

By pleurisy we mean inflammation of the pleura, or membrane covering the lung.

The most frequent causes of pleurisy are exposure to cold and wet, sitting or sleeping in wet clothes, &c. Two cases that recently came under our notice will afford examples of its mode of production. The first is that of a young man, who went to a crowded theatre on Boxing night, and what with the heat and crowd and excitement, got drenched with perspiration. At the conclusion of the performance he stopped talking to some friends at the corner of the street, until he was thoroughly cold, and, to use his own expression, "all of a shiver." He went into a public-house and had some hot brandy-and-water, but was unable to shake off the feeling of chilliness, and the next day he was laid up with a sharp attack of pleurisy. The other patient was a clown and gymnast in a travelling circus. One night when in the country his "tights" were not sent home from the wash until the last moment, and he found they were quite damp. It was almost time for him to appear, and he had no chance of airing them before putting them on. He went through his performance, but felt cold and chilly from his wet garments, and the result was that he, too, got pleurisy, which finally left him so weak and short of breath that he was hardly able to walk across the room, much less to amuse the public. Sometimes inflammation of the pleura occurs as the direct result of a blow or fall on the chest, and sometimes it is excited by the irritation caused by the splintered ends of a broken rib. There is reason to think that extreme muscular over-exertion, or prolonged public speaking, may produce pleurisy, even in previously healthy persons, but these cases must be rare. Not unfrequently pleurisy occurs as the result of some constitutional affection, as, for example, scarlatina, typhoid fever, or Bright's disease. When it occurs "primarily," that is, as the sole complaint, it usually attacks one side only, but when it is secondary to some other disease, it is commonly bilateral, both sides of the chest being involved.

The outset of pleurisy is in most cases marked by sharp, stabbing pains, commonly in the side or beneath one of the breasts, preceded or accompanied by shivering or a feeling of chilliness. These two signs, the stitch in the side and the shivering, are in themselves sufficient to make us suspect pleurisy; and should there be, in addition, distinct elevation of the temperature as tested by the thermometer, our suspicion will be considerably heightened. The pain is usually aggravated by taking a deep breath, by coughing, by lying on the affected side, and by pressure. The skin is hot and dry, the cheeks are flushed, the pulse is full and quick, there is anxiety with considerable restlessness, and the urine is rather scanty and high-coloured. The breathing, at the outset especially, and while there is still pain, is considerably embarrassed, the movements of inspiration in particular being short, hurried, and often interrupted or jerking. The temperature of the body gradually

risers to perhaps 103° F., but this elevation is not persistent, and it quickly falls again. Disturbances of the digestive organs, headache, and other symptoms associated with the condition of fever are present more or less. Cough is another of the ordinary symptoms, but it does not occur in paroxysms; it is small, half-suppressed, ineffectual, and is dry, or accompanied by very little expectoration. If much frothy mucus should be expectorated, it is a sign that there is also bronchitis; or if rust coloured sputa be brought up, it is an indication that the complaint is complicated with inflammation of the lungs.

The symptoms we have enumerated may be regarded as those of a pretty sharp attack occurring in an adult. Sometimes, however, pleurisy may come on with scarcely a single noticeable symptom to arrest attention, at all events in the early stage of the malady. The pain may be vague or fugitive at first, and not become fixed and permanent for a day or two. In that case it may be mistaken for simple rheumatic pain, for muscular soreness, for pleurodynia, or for what is thought to be merely a nervous pain. In children especially, the febrile symptoms are often inconsiderable, and the cough is not likely to attract much attention in slight cases.

We have said that by the pleura we mean the investing membrane or covering of the lung, but we ought perhaps to have explained that it is in reality a double bag, consisting of two parts, one of which covers the lung, and the other lines the cavity of the chest on the same side. Ordinarily there is no true cavity between these two layers, one bag being in contact with the other, and gently gliding over it with every movement of the chest and lung. Now, in pleurisy the adjacent surfaces of the pleura get roughened as the result of the inflammation, giving rise to "friction," a rubbing or grating noise, which may be heard by the physician when he listens to the chest with the stethoscope. The inflammation may subside, leaving the pleura uninjured, or the two layers may become more or less adherent, the patient being left with permanent shortness of breath, little or much as the case may be. Not unfrequently the inflammation results in what may be called dropsy of the chest, a clear fluid being poured out between the two bags, so as to surround the lung on the affected side. When the fluid is considerable in quantity—and sometimes it amounts to several pints—it compresses the lung, so that it cannot expand properly during respiration. The physician detects the presence of fluid in the chest by means that are simple enough to him, although they may appear somewhat complicated to those who have not had experience in such modes of investigation. In the first place he looks carefully at the chest, to see if one side is larger than the other, for it is obvious that if much fluid be present it will cause the chest on that side to bulge out. Should the bulging be not very distinct, he may measure the two sides with a tape, with the view of detecting the enlargement; but the practical physician, as a rule, trusts rather to his eye and hand than to actual measurement. It should be remembered that in many healthy people the right side of the chest is somewhat larger than the left, from the greater development of the muscles. Then the next thing the doctor does is to place the palm of his hand on the chest, first on one side, and then on the other, making the patient speak at the same time. On the sound side he feels a vibrating movement, just as you do when you place your hand on your own healthy chest, and say, for example, "ninety-nine" in a fairly

loud voice. On the side on which there is effusion nothing of the kind is felt, for the fluid fails to conduct the vibration to the chest-wall. Then the doctor percusses the chest; in other words, taps it with the tips of his fingers, interposing perhaps one or two fingers of the other hand, to prevent the patient from being hurt. On the healthy side the blow gives out a clear sound, just as you get when you tap with your finger on the upper part of your bared chest. When there is fluid present, the note given out is a dull one, similar to that you obtain when you strike your thigh in the same way. Often enough the fluid is only sufficient to half or a quarter fill the chest on one side, and then the dulness on percussion will obviously be only at the lower part of the lung. Finally, the doctor listens to the chest with his stethoscope, and hears the air entering the lung on the healthy side, but little or nothing where the fluid is. We have described these different modes of examining the chest, not that you may practise them yourself, but rather to impress upon you the necessity for having the chest thoroughly examined in any case in which there is the slightest suspicion of lung disease. Many people put absurd difficulties in the way of the doctor, and he is sometimes—wrongly, we are sure—afraid to push his point, for fear of offending his patient. Remember that in any case of suspected lung mischief it is impossible for the doctor to do you justice unless he has an opportunity of thoroughly examining your chest; and remember, too, that often enough he will require to make several examinations before giving a positive opinion. Many people seem to think that a physician can find out what is the matter with them by listening through their clothes, but it cannot be done. You might as well ask him to listen through a brick wall.

The amount of effusion may to some extent be estimated by the shortness of breath, but the best test is the extent of dulness on percussion. In some cases the whole of one side of the chest becomes filled with matter, and this is most likely to arise in weakly constitutions, or when the inflammation has resulted from injury.

The disease with which pleurisy is most likely to be confounded is inflammation of the lungs. In both affections there are fever, cough, and shortness of breath. In pleurisy, however, the temperature is rarely very high at first, whilst in inflammation of the lungs it may reach 103° or 104° within the first twenty-four hours. The feeling of shortness of breath is usually much more distinct in pleurisy than in inflammation of the lungs. The cough in pleurisy is short and hacking, but attended with no expectoration, or with only the discharge of a little mucus; whereas, when the lungs are inflamed, the expectoration which is present in almost all cases soon becomes rusty in colour, and very thick and tenacious. Sharp, stitch-like pain in the side is a very frequent characteristic of pleurisy; whereas, in inflammation of the lungs there is commonly no pain, or it is of a duller and more diffused character. It must not be forgotten that the two affections—pleurisy and inflammation of the lungs—may coexist. Should a difficulty be experienced in making the diagnosis, it is not a matter of any very great moment, for in either case the attendance of a doctor is absolutely necessary.

There is no difficulty in distinguishing between pleurisy and a purely muscular pain. In the former case there is distinct elevation of temperature, in the latter there is none. A simple thermometrical observation will settle the question.

Cases of simple pleurisy without effusion usually terminate favourably, and the danger to life is small. When effusion has occurred, and there is fluid in the chest, the prognosis is far less favourable, and the danger may to some extent be estimated by the occurrence of attacks of shortness of breath. Secondary pleurisy is always more dangerous than primary.

Now as to the treatment of pleurisy. Practically it may be summed up in these words: "Put the patient to bed and send for the doctor." But as medical assistance is not always forthcoming at a moment's notice, there are other measures that may be adopted pending its arrival. A light diet of gruel, arrowroot, beef-tea, and broth, with occasional sips of cold water to allay thirst, will be found beneficial. When there is effusion some doctors consider that little or no fluid should be given, and cases have recently been published which seem to bear out this view. It is important to avoid draughts, but if in bed the patient may be allowed to assume any position that is to him most comfortable. Linseed-meal poultices, or flannels wrung out of hot water and applied to the chest, often give relief. A flannel bandage attached round the chest will moderate the pain by restraining the movement of the ribs. Strapping the chest on the affected side, as one would do for broken ribs, often affords immediate relief, and the most favourable results have in many cases followed this procedure. Ordinary sticking-plaster may be used, and if spread on some thick material so much the better. It should be cut into strips from three to four inches wide, and sufficiently long to extend from the spine behind to the middle line in front. These strips should be warmed before being applied, either by holding them in front of a fire for a few seconds, or what is better, by drawing their backs over a large jug of hot water. Some people dip them bodily into hot water, but this is not a good plan, for the patient is very apt to catch cold after it. The strips should not be applied horizontally, but somewhat obliquely, the alternate layers running in opposite directions. It is best to make the application from below upwards, and the patient should be directed to expire deeply as each strip is being put on. Each layer should overlap the preceding by about a third of its breadth. Finally, it is often desirable to apply over the whole two or three strips horizontally, so as to form a superficial layer, and one or two may also be passed from behind forwards over the shoulder, these being kept down by another fixed round the side across their ends. It is of course necessary to make this application only on the affected side. When this plan is not adopted the chest may be well painted with iodine liniment. When the pain is agonising, and resists other and simpler treatment, it is quite justifiable to give a hypodermic injection of morphia—say two drops of the pharmacopœial solution.

There are two drugs which may be advantageously administered internally, and these are aconite and bryony. Aconite is most useful in quite the early stage of the complaint. A drop of the tincture should be given in a tea-spoonful of water every ten minutes for the first hour, and subsequently hourly, or Pr. 38 may be used. After two or three doses the skin becomes moist, contrasting favourably with the hot dry skin, urgent thirst, quick pulse, and general suspension of the secretory functions which previously existed. Bryony is especially indicated when there are stinging, shooting, or burning pains in the side, aggravated by breathing or movement; painful dry cough.

or cough with expectoration of glairy sputa; laboured, short, and rapid respirations; weariness, disposition to retain the recumbent posture, irritability, and restlessness. A dose of Pr. 49 may be given every two hours, either alone or alternately with aconite. A recent writer says:—"In pleurisy, bryony is an exceedingly valuable drug; it is usually in the second stage, in which general pyrexia (fever) has diminished or disappeared, but exudation continues, that the best effects of the remedy are seen. It is just in those cases in which aconite is so effectively employed in the earlier feverish stage that bryony afterwards proves most useful; it limits the extent of serous effusion, and actively helps its removal by absorption."

Iodide of potassium is a drug frequently given in the treatment of pleuritic effusion, with the view of aiding the absorption of fluid, but it is very doubtful whether it has any such effect. By many it is considered that the tincture of perchloride of iron, given in fifteen-drop doses in a tea-spoonful of water three times a day, is a more efficacious remedy. It forms an admirable tonic and restorative in the anæmia which often follows an attack of pleurisy.

In many cases of pleurisy with effusion it becomes necessary to resort to the operation of tapping the chest. This plan of treatment has inaugurated a new era in the management of these cases, and many lives are now saved which formerly would have been inevitably sacrificed. When carefully performed by means of an instrument called the aspirator, it is not only devoid of danger, but is practically painless.

PYROSIS, OR WATERBRASH.

We have already had occasion to refer to this complaint as a symptom of dyspepsia. It is characterised by a burning sensation at the pit of the stomach, followed by the vomiting or rather the eructation of a thin watery fluid resembling saliva, sometimes sourish, but usually insipid and tasteless, and often described by the sufferers as being cold. It is stated that it sometimes occurs without any other evidence of dyspepsia, but such is not often the case. It is, however, often a symptom of some of the more serious diseases of the stomach. It is a disorder far more common in the lower ranks of society than in the upper, and among women than men. It is of common occurrence in Scotland, and is there ascribed to the large employment of oatmeal as an article of diet. It is said to be even more prevalent in Lapland, and is not at all uncommon in Wales, and in various parts of England where the diet is chiefly vegetable. The paroxysms usually come on in the morning and forenoon, when the stomach is empty. The first symptom is usually a pain at the pit of the stomach, often very severe, and increased on assuming the erect posture. The sufferer usually obtains relief by bending the body forwards. The pain continues for some time, and is then followed by the eructation of a thin watery fluid in considerable quantities. A case is recorded in which no less than three pints of this tasteless fluid were brought up every day. It has been supposed that when the fluid is tasteless and insipid it is formed in the mouth or throat, and does not come from the stomach at all. When, however, the fluid is acid, it may be taken for granted that at all events some of it comes from the stomach.

Next as to the treatment. It need hardly be said that when the disorder has arisen from the use of innutritious or unwholesome food, the adoption of a more generous and varied diet, including a sufficient proportion of meat, is essential. Many of the rules we have laid down regarding the diet of dyspeptics are applicable to the treatment of this complaint. In obstinate cases the most brilliant results have followed this prescription :—"When the patient is hungry, let him eat butter-milk, and when he is thirsty, let him drink buttermilk." Fresh milk is not so well borne, as it curdles in the stomach.

There are several medicinal preparations which are useful in the treatment of waterbrash. The compound kino powder of the Pharmacopœia is an admirable remedy. It should be taken in twenty-grain doses three times a day. The only objection to its use is that it contains opium, which has a tendency to confine the bowels. This difficulty may, however, be readily overcome by administering with it some simple purgative, as the watery extract of aloes, confection of sulphur and senna (Pr. 59), or the compound colocynth pill (Pr. 60). Bismuth (Pr. 18) usually succeeds admirably. If the ordinary dose should fail, thirty grains of carbonate of bismuth should be taken three times a day in a little water half an hour before meals. When the fluid which regurgitates into the mouth is distinctly sour or acid, nothing succeeds like dilute hydrochloric or nitric acid given before food. From twenty to thirty drops of either taken in a wine-glassful of water half an hour before each meal will, in these cases, usually effect a cure. When the fluid of pyrosis has an alkaline reaction, and is accompanied by much distress and nausea, and the vomiting of the just-eaten food, the acid should be given in the same dose, but just after food. In obstinate cases *nox vomica* (Pr. 44) or *pulsatilla* (Pr. 43) may be tried. A tea-spoonful of glycerine three times a day often proves useful.

In connection with the subject of pyrosis we may mention that rumination occasionally occurs in the human being. One of the most remarkable cases on record is that of a carpenter's apprentice. Although a sharp and intelligent young man, he was a "slow eater." In the struggle for existence, he found himself at a considerable disadvantage, for only a few minutes were allowed for meals by an exacting and ubiquitous taskmaster. It was obvious that he must either go with insufficient food, or swallow it whole and run the risk of suffocation. Having a natural dislike to hunger, he selected the latter course, and in process of time acquired the art of swallowing his food in wholesale pieces, and without any attempt at mastication. Having finished his meal, he usually repaired to the workshop, and no sooner commenced handling the implements of his craft than the regurgitation of the food commenced. As a rule, in ten or fifteen minutes after the meal was swallowed it was returned in mouthfuls, at intervals of from five to ten minutes, to be masticated and again swallowed until the whole contents of the stomach had been similarly served, when the abnormal process ceased. This regurgitation was first noticed about the age of fifteen, soon after this young carpenter entered on his apprenticeship. For the succeeding fifteen years he invariably returned to his mouth all his food, or nearly all, until at length, as time rolled on, and as fortune and circumstances improved, he had more leisure for his meals, and more time for what may be called primary mastication, and then this striking, novel, and supplementary process of

nature became modified, and gave way in great part to the more usual, less complicated process of preparing the food off-hand for admixture with the gastric juice, and for the processes of digestion and assimilation.

QUINSY—INFLAMMATORY SORE THROAT, OR TONSILLITIS.

This complaint consists essentially of inflammation of the tonsils and adjacent parts.

It is said to occur most commonly among young people, but it is frequently enough met with in middle-aged adults. Some individuals appear to have naturally a strong predisposition to this disease, and in them the attacks are usually more or less periodical, recurring at particular seasons, commonly during the variable weather of spring and autumn. The exciting cause is usually exposure to cold or damp, or both combined. At some seasons it is so prevalent that it might almost be said to be epidemic. At one time it was supposed to be contagious, but there is not the slightest evidence to show that such is the case. One attack usually predisposes to another.

The symptoms vary very much in different cases, according to the extent of the disease and the parts involved. In all but very mild attacks the invasion of the complaint is marked by a general feeling of malaise, by headache, and aching pains in the limbs, and a sense of chilliness, or even distinct rigors. The constitutional symptoms are usually severe, the temperature rising to 102° Fahr., and the pulse reaching 120 beats in the minute, or even more. The skin is moist, the tongue is covered with a thick yellowish creamy fur, and there is often headache. The bowels are confined, and there is generally much restlessness, particularly at night.

The local symptoms keep pace with the constitutional disturbance. At first a little dryness or uneasiness in the throat is experienced, but this gradually increases until it amounts to severe pain. Swallowing soon becomes very difficult and extremely painful, the pain shooting up towards the ears. There is considerable tenderness behind the jaws, and on this account some difficulty may be experienced in opening the mouth. The glands of the neck become enlarged and hardened, and very frequently the whole neck itself is stiff and swollen. Later on swallowing becomes still more difficult, fluids return through the nose, and the throat feels as if it were completely blocked up. The speech is altered, and is not uncommonly thick, guttural, and inarticulate. There is often more or less deafness on one or both sides, particularly if the tonsils are much enlarged. In some instances there may be a sense of suffocation on lying down, but in adults this is not common.

If the tongue be depressed with the handle of the spoon so that the back of the throat may be examined, it will be found to be redder than natural, and the tonsils, greatly enlarged, will be seen projecting, perhaps to such an extent as almost to meet in the middle line.

In mild cases the inflammation may gradually subside, but far more frequently it runs on to the formation of matter. After a few days a pale yellowish spot is seen on the surface of the tonsil, indicating the point at which the matter tends to escape. The abscess usually bursts during some effort made by the patient in

coughing, swallowing, or clearing his throat. The matter discharged has usually a fetid odour, and a disagreeable taste. Sometimes this circumstance alone indicates to the patient what has happened, for the quantity of matter may be so small as readily to escape notice. The relief which ensues on the bursting of the abscess is very striking. The pain almost at once subsides, and the difficulty in swallowing is in a great measure removed. Although both tonsils may be affected, usually matter forms in only one of them.

Quinsy is a very disagreeable complaint, but fortunately it is attended with little or no danger. Common as it is, death from this cause is almost unknown. The duration of an attack is usually some five or six days, but occasionally it will keep the patient in bed, or at all events in the house, for ten days or longer.

Next, as to the treatment of quinsy, the remedy *par excellence* is aconite. It should be given in half-drop or drop doses of the tincture in a little water every ten minutes or quarter of an hour for two hours, and afterwards hourly. If there is much prostration, with weak and feeble pulse, a smaller dose should be given. The medicine may be conveniently administered in the form of the aconite mixture (Pr. 38), every tea-spoonful of which is equivalent to about a drop of the tincture. Aconite, if given in the early stages of quinsy, acts like a charm. The dry, hot, burning skin becomes in a few hours comfortably moist, and in a little while longer is bathed in a profuse perspiration, the sweat not uncommonly standing on the face and chest in large drops. With the sweating comes speedy relief from many of the most distressing sensations, as restlessness, chilliness, heat and dryness of the skin, aching pains and stiffness. At the same time the quickened pulse becomes far less frequent, and in a period varying from twenty-four to forty-eight hours both pulse and temperature regain their natural state. If caught at the commencement, a quinsy or acute sore throat seldom fails to quickly yield to this treatment. The sweating may continue for a few days after the decline of the fever. If administered sufficiently early, the beneficial effects on the local symptoms are very striking. The large, livid, red-glazed, dry tonsils within twenty-four hours present an appearance indicating that the acute stage of inflammation has subsided. Just at this point a strong astringent, such as glycerine of tannin, applied well to the inside of the throat by means of a brush, will quickly remove most of the remaining unhealthy appearances, and also any pain that may still be lingering.

There are several different forms of sore throat, but it is only in those cases in which the patient is feverish that aconite does good. In the ordinary relaxed sore throat its administration is useless. Directly you get a sore throat, pull out your thermometer and take your temperature. If you find it elevated, you know that your remedy is aconite; if you find that it is normal, you know that aconite will do no good. In the treatment of inflammation, and more especially of inflammation of the throat, the thermometer and the aconite bottle should go hand in hand.

Belladonna is a useful remedy in quinsy. It is chiefly indicated when there are bright redness and rawness of the affected parts, with flushed face, glistening of the eyes, headache, and pain and difficulty in swallowing. The tincture of belladonna should be given in the same way and in the same doses as the tincture of aconite. The belladonna mixture may be used (Pr. 39). We prefer, as a rule, not giving this

remedy until the patient has taken aconite for some twenty-four hours or more. In many cases, however, the two remedies may be associated; they are not to be mixed, and they are not to be given together, but alternately—a dose of aconite one hour, a dose of belladonna the next, then again the aconite, and so on.

In certain conditions of quinsy the influence of grey powder is most marked. Pr. 71 may be employed, a powder to be taken every two or three hours. It is especially indicated when the tonsils are so enlarged as almost to meet; when the difficulty in swallowing is almost insuperable, and when the obstruction to breathing is so great that the patient seems to be in danger of suffocation. In these cases it acts like a charm, the swelling quickly subsides, and in a few hours the crisis is passed. Even when matter has formed, its maturation and evacuation are facilitated.

Grey powder is not usually required quite at the commencement of the attacks. In many cases our treatment of quinsy runs as follows: first a course of aconite, then one of belladonna, and finally one of grey powder. The indications for each of these remedies should be carefully considered.

Another good medicine, when matter has distinctly formed, is sulphide of calcium. It should be given in the form of the pilules (Pr. 68), one every quarter of an hour for the first hour, and then hourly for five or six hours.

Carbonate of baryta in small doses has been highly recommended in the treatment of quinsy. It must be given early, before matter has formed, and it is essential to give it frequently.

Guaiacum is a capital remedy for tonsillitis. Send for a bottle of “ammoniated tincture of guaiacum,” and take a tea-spoonful of this in milk every four hours. It is distinctly nasty, but you must not mind that. It is essential to take the full quantity, for small doses do hardly any good. In the case of children, who have frequently very decided opinions as to the inadvisability of taking nasty medicines, it may be better to give small doses of the aconite mixture, which is perfectly tasteless. It has been said that guaiacum proves of service only in “rheumatic” sore throat. This is not the case, for it answers admirably in ordinary quinsy.

Next as to the general treatment, and the accessory measures to be employed. The first thing is to go to bed—there’s no help for it, and there’s not a bit of good your trying to keep about, you’ll only make yourself worse, and, perhaps, be laid up for a fortnight. You must go off to bed *at once*. No, presently won’t do, every hour is of importance. You must have a hot-water bottle in the bed, and the fire must be lighted. Put the kettle on the hob, so that the steam may escape into the room and keep the air moist. You must have the window open for a good inch at the top, or the room will get abominably stuffy, and that’s the worst thing in the world for a sore throat. Shall you send for a doctor? No, you’ll get on very well if you will only keep your wits about you. Where’s your tincture of aconite bottle? Haven’t you got any? Then you ought to have. Send to the chemist’s for it without a moment’s delay. No, don’t go yourself; you are not to go out on any account. And just say, if you please, that you will feel obliged if the chemist will let

you have it at once, as it is a matter of importance. Says he will send it round by-and-by, does he? Nonsense, that will never do, you must have it at once; it is no use sending medicine for people after they are dead and buried!

And what else is there to be done? You had better get some clear ice and have it broken up into little lumps about the size of a small walnut, and then set to work and suck it. It is very beneficial in many diseases of the throat, but especially in tonsillitis. It helps to subdue the inflammation, and is at the same time very grateful, for it allays the heat and pain, and checks the abundant secretion of mucus, which is often so harassing, from the constant hawking and swallowing which it occasions. You must keep on sucking the ice as constantly as you can, and must not give it up till you are distinctly better. You can't get any? Well, it is rather a bother sometimes in the country. What are you to do? You must use warm applications instead of cold then—that is all. You may put on a good hot linseed-meal poultice, right across the front of the throat, extending from ear to ear. Then you should inhale the steam of hot water. If you haven't a proper inhaler, an ordinary jug will do perfectly well. Get it filled with hot water, and put your mouth over the top, and breathe away. You had better put a towel round the mouth of the jug, and then you will not burn your face. If you try inhalation in bed, mind you do not by a sudden movement upset the jug. Boiling water applied to the legs undoubtedly acts as a powerful temporary stimulus, but it is not a method of treatment of any service in tonsillitis.

Very frequently a warm milk-and-water gargle proves very soothing. A well-known medical writer says: "The only gargle which I should consider admissible in the commencement of the malady is a gargle of warm milk-and-water. I have known of one instance in which quinsy suddenly attacked a gentleman who was extremely anxious to use his throat in public speaking the next day. He occupied himself perpetually for some hours in this sort of fomentation of the tonsils with hot water, and with such good effect, that on the day following he was able to accomplish his object." Some people use a gargle of vinegar and honey, whilst others devote their energies to sucking saltpetre balls. And what about calomel? Isn't calomel the right thing to begin with? No, certainly not; if your bowels are confined you may get them open by some simple purgative if you like, but that is all you want. Nine times out of ten, if taken sufficiently early, aconite or guaiacum will effect a cure. If there is much shortness of breath the doctor had better be sent for, as the enlarged tonsils may be causing some obstruction, and it may be necessary to make a little prick in one of them to let the matter out.

RELAXED SORE THROAT.

This may either be the sequel of an acute sore throat, or it may make its appearance quite independently of any previous febrile disease.

It occurs most frequently in people of somewhat feeble constitution and sedentary habit. It is often caused by excessive indulgence in smoking.

The symptoms complained of are chiefly uneasiness at the back of the throat,

increased by swallowing, and a slight, dry, hacking cough. Impediments in speech, or alterations of voice, are not common, and difficulty in swallowing is still more rare.

On examining the throat by the aid of a looking-glass it will be found to be more or less relaxed and swollen. The uvula is usually much elongated, so that it bends down and touches the back of the tongue, keeping up a constant sensation of tickling, and giving rise to the slight hacking cough.

This is not a febrile complaint, and there is consequently no constitutional disturbance. The pulse and temperature are normal, and there is neither headache nor loss of appetite. The patient may be a little pulled down, but this is more likely to be one of the factors in the production of the complaint than a result of it.

A relaxed sore throat is by no means an easy thing to get rid of. It often hangs about week after week, nothing apparently doing it any good.

In most cases it depends on what we call "debility," or "want of tone," of the whole system, and until this is remedied local applications are not likely to do much good. In most cases the general health may be improved by the administration of the ammonia and bark mixture (Pr. 13). It is a powerful tonic, but its action should be aided by taking three or four glassfuls of good port wine daily. Sometimes more benefit would be obtained from the quinine mixture (Pr. 9). When there is marked anæmia, one of the astringent preparations of iron, such as Pr. 1 or 2, may prove of service. The phosphate of lime and iron powders (Pr. 77) are in many cases useful.

It is very essential that plenty of out-door exercise should be taken, and the patient should remain in the house as little as possible. If a resident in London he cannot do better than get on the top of a 'bus or tram, and go for a good drive. On a summer's afternoon or evening, a run up the river on one of the boats is an excellent tonic. A trip to Gravesend is not to be despised. If the patient, from the nature of his engagement, is unable to get away till late, he should turn out an hour earlier in the morning, and get his blow that way. Many people who habitually go to the city by the Underground would derive considerable benefit by occasionally walking to their place of business on a fine morning. A four miles' spin, even on the flags, is not a bad preparation for a day's work.

Next, as to local applications. Undoubtedly one of the best, if not the best, is glycerine of tannin. Get a bottle of it from your chemist, and a brush. Sit down in a chair with your mouth wide open, and get some good-natured friend to thoroughly swab out the back of your throat for you with this application. Have this done for you two or three times daily for three or four days. If the condition of your throat keeps you awake at night, get it done at bed-time as well. It is a powerful astringent, as you will probably find out. It will quickly cure a cough if this has been kept up by the irritation of an elongated uvula. This method of treatment is often followed by the most satisfactory results. Tannin lozenges or red-gum lozenges are sometimes used, but they are not at all equal to glycerine of tannin.

When the throat is dry and glazed, guaiacum lozenges often answer well; one or two should be taken occasionally. A gargle made by adding a drachm of tincture of

capsicum to half a pint of water will be found useful. It should be employed three or four times a day. Pr. 84 is a good one. An alum gargle is often recommended, but it is far inferior to the glycerine of tannin.

The inhalation of steam impregnated with some stimulating volatile principle is of the greatest service. An excellent formula is, three drachms each of creosote and glycerine added to three ounces of water; a tea-spoonful to be added to a pint of hot water and the steam inhaled for five minutes twice or three times a day.

In chronic sore throats spray inhalations often prove very useful. The following ingredients are most to be recommended :—

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|-------------------------------|----------------------------------|
| (1) Alum . . . | 15 grains to the ounce of water. |
| (2) Tannin . . . | 15 grains " " " |
| (3) Perchloride of Iron . . . | 1 grain " " " |
| (4) Sulphate of Zinc . . . | 5 grains " " " |

The quantity of either of these solutions to be used at each inhalation is two or three tea-spoonfuls. They are all astringent, and we are unable to say which should be employed in any particular case.

If you are suffering from sore throat you should either temporarily give up smoking or should smoke in the very strictest moderation. If you can possibly get away for a holiday, do so at once.

REMITTENT FEVER (*See* TYPHOID, TYPHUS, AND OTHER FEVERS).

RHEUMATIC FEVER, OR ACUTE RHEUMATISM.

Rheumatism may occur either as an acute or as a chronic disease. When it occurs in the acute form we call it acute rheumatism, or rheumatic fever.

Rheumatic fever is in this country one of our commonest, most painful, and in some respects most perilous diseases. It is perilous, not because it kills the sufferer outright, but because it too frequently lays the foundation of heart disease.

The commonest exciting cause of rheumatic fever is cold or cold, and wet combined. A young man goes out for a walk, gets wet through, comes home, neglects to change his clothes, and sits about in his wet things, gets a chill, and a few days after is taken ill, and is found to be suffering from acute rheumatism. This is a common story, and one which is familiar enough to every one who has seen much of sickness and suffering either in the wards of our hospitals or in the privacy of home life. There are, of course, differences in detail: one person gets overheated and sits in a draught, another is put into damp sheets, and so on, but the principle is the same. Scarlet fever is sometimes followed by a complaint which, if not identical with rheumatic fever, very closely resembles it. It is probable that the eruption of scarlet fever, by arresting the functions of the skin, acts in very much the same way as does exposure to cold and wet. In a certain number of cases of rheumatic fever the patient is unable to attribute the complaint to any definite cause, and it is probable that when there is a strong family predisposition it may arise, as we say, spontaneously.

Rheumatism, both in the acute and chronic forms, is probably an hereditary disease, but this influence is far less marked than in the case of gout.

Rheumatic fever is principally a disease of youth, and in this respect again it differs essentially from gout. It is found to occur most commonly between the ages of sixteen and twenty.

It is rather more common in men than in women.

Its development is favoured by anything which lowers the general state of health. It is partly from this cause, and partly from the fact that they are more constantly exposed to wet and cold, that rheumatic fever occurs most frequently in those who are poor and ill-fed, and whose lot it is to toil.

Rheumatic fever is always most prevalent in climates remarkable for damp and variable weather, and it is consequently not to be wondered at that it is a very common disease in many parts of this country.

We must now proceed to consider the course of an ordinary attack of rheumatic fever. We have already supposed the case of a young man suffering from acute rheumatism as the result of exposure to wet and cold. What happens to him? At the time he probably experiences some kind of chill or rigor, although it need not of necessity be very severe. Two or three days after he feels feverish, and finds that some of his joints are affected. His temperature is high, his pulse rapid, and the whole surface of the body hot and bathed in perspiration, having a peculiar acrid or acid odour. His tongue is coated with a thick creamy fir, there is loss of appetite and usually increased thirst, with constipation of the bowels. The urine is scanty and high-coloured, and gives rise to a copious red deposit on cooling. The ankles, or perhaps the knees, are painful and powerless to bear the weight of the body; on examination they are found to be hot, tender, swollen, and somewhat flushed on the surface.

When the disorder is at its height it is difficult to conceive a more complete picture of helplessness and suffering than that to which the patient is reduced. A strong and powerful man generally unused to illness lies on his back motionless, unable to raise his hand to wipe away the drops of sweat which flow fast from his brow in the paroxysms of pain, or the mucus which irritates his nostrils. Indeed, he is so helpless that he has not only to be fed, but to be assisted at every operation of nature. The sweat in which he is drenched brings him no relief; his position admits of no change; if he sleeps, his sleep is short, and he awakes with an exacerbation of pain which renders him fretful, impatient, and discontented with his lot and all around him.

The duration of an attack of acute rheumatism is very variable, but it lasts, as a rule, for about twenty-one days. There is probably no disease which is more variable in its duration than rheumatic fever. Some people get over an attack in five or six days, whilst others take as many weeks before they can succeed in completely throwing it off. The pain, redness, and swelling of the joints gradually subside, the temperature falls, the sweating diminishes, the tongue becomes clean, and after a time the patient is pronounced convalescent.

So far we have considered only a simple case of rheumatic fever, in which the inflammation has been limited to the joints. In a large number of cases the disease

extends to the pericardium, or bag or membrane which encloses the heart, giving rise to the disease which we call "pericarditis." This inflammation may result in the formation of a quantity of fluid in the pericardium surrounding the heart, and then we have a condition of "pericardial effusion." Frequently the inflammation attacks the endocardium, or membrane lining the heart, and then we have what is called "endocarditis." Sometimes the substance of the heart itself is attacked, and then we have that condition which we speak of as "myocarditis." In fact, in nearly all cases in which there is pericarditis or endocarditis there is more or less myocarditis. The occurrence of these complications is a matter of very serious moment to the patient. Sometimes they set in with pain and tightness in the chest, but they may come on quite insidiously, and without anything to attract attention to what is going on. The medical man can always detect their existence by carefully listening over the region of the heart, and it is for this reason that he is always so particular to examine the chest with his stethoscope every day. Were he not to take this precaution he would have very little real knowledge of the progress of the case.

Pleurisy sometimes occurs as a complication of rheumatic fever, but far less commonly than heart disease.

The inflammation in rheumatic fever is seldom confined to one joint, but shifts about in the most erratic manner. This morning, for example, the pain may be confined to the right knee, a few hours later it may have entirely subsided, whilst before night it may re-appear in the corresponding joint on the opposite side, or perhaps in the ankles or wrists. This "metastasis," as it is called, is always a marked feature of acute rheumatism. In the majority of cases in the first attacks only the larger joints of the body are affected.

The pain in the joints is generally very severe, but less intense than in gout. A humorous Frenchman, endeavouring to convey his idea of the relative pains of gout and rheumatism, once said, "Place your joint in a vice, and screw the vice up until you can endure it no longer. That may represent rheumatism. Then give the instrument another twist, and you will obtain a notion of gout."

The temperature of the body, as estimated by the thermometer, is usually elevated by some three or four degrees. The rapidity of the pulse is in acute rheumatism no guide to the amount of fever, as the existence of heart disease as a complication would tend to influence its rate. To arrive at a knowledge of the amount and severity of the fever it is absolutely necessary to employ the thermometer.

The smell of the perspiration in this complaint is very characteristic, and will often enable the practised observer to make a shrewd guess as to the nature of the illness from which the patient is suffering before asking a single question.

A person who has once suffered from rheumatic fever is very likely to suffer from it again. The occurrence of one attack imparts a great susceptibility to the system for its return, and this is increased with every successive attack, so that after a time the patient is liable to become the victim of frequent seizures. It very commonly happens that the second and third attacks are less severe than the first.

Sometimes the disease assumes a sub-acute form, intermediate in its characters

between chronic rheumatism and rheumatic fever. In these attacks there is usually slight swelling, heat, and tenderness of the joints, but there is very little, if any, fever. Even in patients who have suffered long and severely from repeated attacks of acute or sub-acute rheumatism it is unusual to find that any deformity or alteration in the shape of the joints has been produced.

We have already had occasion to refer incidentally to some of the chief points in which gout and rheumatic fever differ. It is, however, a matter of convenience to have these facts arranged in a tabular form. It is of the greatest importance to be able to distinguish the two diseases, for gout is readily amenable to the influence of colchicum, whilst acute rheumatism is but little influenced by its administration.

DIFFERENCES BETWEEN GOUT AND ACUTE RHEUMATISM.

<i>Gout.</i>	<i>Acute Rheumatism.</i>
<i>Age.</i> —Occurs most commonly in people over thirty.	Occurs most commonly in young people.
<i>Sex.</i> —Occurs much more frequently in men than in women.	Occurs with almost equal frequency in the two sexes.
<i>Hereditary.</i> —Is decidedly hereditary.	Is hereditary, but not very decidedly.
<i>Social Condition.</i> —Occurs most commonly in those who live luxuriously.	Is the lot of the poor and ill-fed.
<i>Joint.</i> —In earlier attacks usually affects only one joint at a time, and most commonly the great toe.	Usually attacks the larger joints of the body, and frequently several at once.
<i>Chalk-stones.</i> —Often associated with the formation of chalk-stones.	Never leads to the formation of chalk-stones.
<i>Perspiration.</i> —Profuse perspiration not common.	Profuse acid perspiration a prominent symptom.
<i>Heart.</i> —No tendency to inflammation of the membranes of the heart.	Heart frequently affected.

We must now consider the course of treatment to be adopted in cases of rheumatic fever. As this is not a contagious disease, there is of course no necessity for isolating the patient. The usual precautions should be taken for ensuring cleanliness and thorough ventilation of the room and all that it contains. The chief points to which attention should be directed have been referred to whilst speaking of the general treatment of fever. The patient must, of course, be confined to bed, and should be kept as quiet as possible both physically and mentally. As profuse perspiration is a prominent symptom of the complaint, the sufferer should lie between the blankets, and not in the sheets. Linen which is wet or damp is apt to strike cold, and is not only unpleasant, but very likely to prove dangerous to the patient. A sudden check to the perspiration cannot fail to be injurious, and may even lead to a rapid transference of the inflammation from the joints to the heart. It should always be remembered that rheumatic fever is a very painful complaint, and that the touch of the physician, the handling of the nurse, or even the shaking of the bed by the footstep of an approaching friend, may cause the sufferer the most exquisite pain.

Respecting the diet there is little to be said. When the fever runs high, food

can be advantageously given only in the liquid form. Milk is one of the best kinds of nourishment which can be administered for the maintenance of the strength. When it is not readily assimilated, and proves too heavy for the stomach, it may be advantageously mixed with an equal quantity of soda water or with lime water. Besides milk, beef-tea, mutton-broth, jellies, arrowroot, and other similar easily digestible substances may be given. To allay the thirst, soda water, lemonade, toast-and-water, or even plain iced water will be found useful. Wine or brandy is in young people seldom required, unless indeed there be much depression, as the result of heart mischief.

As the fever abates, a more generous diet may be allowed, commencing with light rice or sago or arrowroot puddings, and gradually progressing to white fish and fowl, and then to beef and mutton. The more the strength of the patient can be maintained, the less tedious will be the recovery.

A large number of different drugs have been recommended for the treatment of acute rheumatism—a fact which may be taken as an indication that we are at present acquainted with no specific for the disease.

The nearest approach to a specific for acute rheumatism will be found in salicine, a substance obtained from the willow. It should be given in thirty-grain doses in an ounce of water every two hours, according to Pr. 12. In very bad cases it may be given every hour until the pain is relieved. Very much larger quantities have been given without the production of any inconvenience. Given quite at the commencement of the illness, it will sometimes quickly cut short an attack. In cases in which it does good the beneficial action is usually apparent within twenty-four, and always within forty-eight, hours of its first administration. In acute cases the relief of pain and the fall of temperature usually occur simultaneously, but in sub-acute cases the pain is sometimes decidedly relieved before the temperature begins to fall. It has been claimed for salicine that it prevents the occurrence of heart disease, but the evidence on this point is inconclusive. Although this drug proves beneficial in the large majority of cases of acute rheumatism, it sometimes fails. In cases in which benefit has been experienced from its administration, it should be continued in twenty-grain doses every four hours for a week after the temperature has fallen to the normal. The influence of salicine on the temperature in acute rheumatism will be seen by reference to the chart given in the article on TEMPERATURE.

Salicylic acid has also been used in the same way as salicine, but it is very insoluble in water, is very nasty to take, and is not readily obtained pure. The only advantage it appears to possess over salicine is that it is cheaper.

Aconite has been highly praised by many eminent authorities in the treatment of acute rheumatism, and there can be no doubt of its usefulness. In many cases, however, it must be admitted that its administration appears to be ineffectual. It is especially indicated when the fever is high and there are violent shooting or tearing pains, worse at night, and aggravated by the touch. The most successful results are obtained when it is administered quite at the commencement of the disease. The aconite mixture (Pr. 38) may be used, the dose being a tea-spoonful every second or third hour. This is not at all equal to the salicine treatment.

Bryony may be given when the patient suffers from lancinating or stitching

pains, apparently affecting the muscles rather than the bones, and increased on the least movement, but improved by rest. It may be given according to Pr. 49.

When the pain in acute rheumatism is very severe it may be necessary to administer opium. A small dose of laudanum may be given by the mouth, but in the majority of cases a hypodermic injection of morphia will not only act more quickly, but will be less likely to upset the stomach. It must be remembered that opium is merely a palliative, and in all probability exerts no influence on the progress of the disease.

Small blisters in the neighbourhood of the affected joints often prove efficacious in relieving the pain.

By some people the administration of nitre in rheumatic fever is supposed to be attended with favourable results. As much as two or three ounces of the salt, dissolved in plenty of water, have been taken in the twenty-four hours without causing any inconvenience; but it must be admitted that there is no conclusive evidence to show that these large doses do any good. A great objection to their use is that unless the perspiration is very profuse patients are unable to take the large quantities of fluid in which the salt must, of necessity, be dissolved.

Bicarbonate of potash has been frequently given in thirty-grain doses every four hours. In many cases it relieves the pain, but it is unavailing in lessening the intensity or duration of the fever.

Large doses of tincture of perchloride of iron—from twenty to thirty minims every four hours—are sometimes given, but we are at present unable to express any definite opinion as to the value of this mode of treatment.

In some cases benefit has been derived from the administration of lime-juice in doses of eight ounces daily.

Colchicum is useless in this disease.

There can be no question as to the value of the cold pack in acute rheumatism. When the pain is too great to admit of the patient being moved, the front only of the body should be packed, and a cold compress, renewed every two or three hours, should be wrapped round each of the painful joints. In cases in which there is a prejudice against the cold pack the body should be thoroughly sponged with tepid or cold water several times a day, using soap if the perspiration is offensive. There is not the slightest fear of increasing the liability to heart mischief by the adoption of this method of treatment.

It will be seen from what we have said that there is great discrepancy of opinion respecting the treatment of acute rheumatism. Some doctors have even gone so far as to assert that all remedies are useless, probably assenting to the dictum of a celebrated physician, who, when asked what was good for rheumatic fever, replied, "Six weeks." It should be remembered, however, that that was before the days of salicine.

Individuals who have once suffered from rheumatic fever must be extremely careful as to their clothing; they should always wear a flannel vest and drawers, which may vary in thickness at different periods of the year. The feet should be kept dry and warm, and every precaution taken to avoid catching cold.

In all cases of rheumatic fever the attendance of a medical man is necessary.

In conclusion, we should wish to say one word of comfort, and that is, that however bad the attack of rheumatic fever may be, and even when it is complicated by heart disease, it seldom or never proves immediately fatal, and the patient is almost sure to get over the illness.

RHEUMATIC GOUT.

The term "rheumatic gout" is one which is employed somewhat loosely both by medical men and the public. It is not uncommon to hear gouty people say that they are suffering from rheumatic gout, simply because the disease which for years was manifested in the feet only now implicates other joints, as the elbows and hands. In fact, the same malady is often regarded as gout when it is confined to the feet, and as rheumatic gout when it affects the upper extremities. Sometimes the sub-acute forms of rheumatism are improperly called rheumatic gout, particularly when they affect the upper extremities. There is, however, a third disease which is neither gout nor rheumatism, but quite distinct from both, and it is this which it is our intention to discuss under the term of rheumatic gout. The ordinary technical term for this complaint is "rheumatic arthritis," but it is sometimes known as "nodosity of the joints."

True rheumatic gout may occur either as an acute or as a chronic disease, but as the latter form is much the more common, it is to this that our attention will be principally directed.

Chronic rheumatic gout may occur in either sex, and at almost any age. The ordinary course of the disease is somewhat as follows:—A young woman who is decidedly out of health, perhaps as the result of over-work and confinement to the house, catches cold, and after a few days experiences some pain in one of her knees, and on examination slight swelling and tenderness are detected. As the result of rest and judicious treatment, the pain subsides, and no more is thought of the matter. A few weeks later, or it may be months, the patient catches another cold, and the same or another joint is affected in a precisely similar manner. On this occasion, however, treatment is apparently of no avail, and the inflammation, instead of subsiding, gradually spreads to other parts. After a time almost every joint in the body may be affected, the complaint causing great distortion and deformity. These changes take place slowly, and may be attended with but little disturbance of the general health. In confirmed cases the hands are usually thin from the absorption of fat and the wasting of the soft tissues, and the knuckles are greatly enlarged so as to form big lumps, or nodes; sometimes the fingers are so bent and distorted one over another that they are, for all practical purposes, useless. The elbow in many cases cannot be straightened, and the wrists are rigid, and scarcely admit of motion in any direction. The knee is commonly much enlarged and rounded, and is often bent with difficulty. Sometimes, in very bad cases, the patient is rendered helpless and a cripple for life.

When the disease commences in the acute form, it closely resembles rheumatic fever; several joints are attacked, the swelling is considerable, and there is distinct increase in the temperature of the affected parts, with pain, tenderness,

and redness. In this complaint the profuse sweating which is so prominent a symptom of rheumatic fever is entirely absent, and the inflammation exhibits no tendency to fly from joint to joint, or to attack the heart or its membranes.

Rheumatic gout, as we have seen, is not a disease which is confined to any particular age. It sometimes occurs in children of from ten to twelve, and has been known to commence in very old people, above seventy. It is commonly thought that women are more likely to be attacked than men, and it is a recognised fact that any irregularity in the menstrual functions predisposes to its occurrence. It is not hereditary, a point in which it differs very markedly from gout. Everything which causes debility, or loss of tone in the system, as, for example, an attack of bleeding from the womb or elsewhere, deep or prolonged grief, or severe or protracted mental anxiety, acts as a predisposing cause of the disease. It is said in some cases to have resulted from rapid child-bearing, and from over-suckling. Cold is frequently an exciting cause, particularly if combined with depression of the functions of the nervous system. Malt liquors and wines exert no influence on its production.

It is of the greatest importance to be able to recognise the nature of the disease in cases of rheumatic gout, for upon its correct understanding often depends the future comfort and physical well-being of the unfortunate sufferer. It is often, too often, mistaken either for gout or rheumatism. From an attack of acute gout it may be distinguished by the duration of the complaint, by the large and small joints being equally attacked at the onset, by the great toes not being specially involved. Rheumatic gout is a progressive disease; it has no intermissions, for during the whole of the patient's life the nodes go on gradually enlarging, and impeding more and more the motions of the limb. The malady spreads from joint to joint without any alleviation in those which have been once attacked. In very chronic cases it is often only from the history of the onset that one is able to distinguish gout from rheumatic gout. In chronic rheumatism one seldom meets with the distortion of the joints which is so characteristic of the complaint now under consideration.

We must now consider the best method of treating this disease. It must always be borne in mind that it is a very intractable disease, and that in many cases all treatment proves unavailing. The most favourable cases for treatment are naturally those in which the disease is not far advanced, the affected joints few in number, and their mobility but partially interfered with. When treatment is resorted to quite at the commencement of the complaint, the disease may sometimes be eradicated from the system and a complete recovery may be the result.

In all cases a sustaining plan of treatment is imperatively demanded. All lowering treatment tends materially to increase the rapidity and severity of the disease. Colchicum, which does so much good in gout, is worse than useless, hence the importance of distinguishing between the two diseases. Everything that can be done should be done to support the strength of the patient. If the disease has been caused by loss of blood, and there is anæmia, the different preparations of iron are earnestly called for. A selection should

be made from Prs. 1, 2, 3, 4, 5, 6, 7, and 63. When in addition to the bloodlessness there is a relaxed habit of body, the more astringent preparations, as, for example, Prs. 1 and 2, are indicated.

When the nutrition is imperfect from any cause independent of anæmia, or loss of blood, cod-liver oil will be found of the greatest advantage. It is especially indicated in patients of spare habit, and when the disease has been attended with wasting. When cod-liver oil cannot be taken, pancreatic emulsion may be substituted. When the complaint has apparently arisen from depressing mental causes, such as anxiety, grief, or prolonged attendance on the sick, *nux vomica*—ten drops of the tincture in a wine-glassful of water three times a day—quinine (Pr. 9), or ammonia and bark (Pr. 13), may be administered with advantage.

Iodide of potassium (Pr. 32) is often of service, especially when the pains are distinctly worse at night. Sometimes, when no benefit is experienced from the ordinary five-grain dose, relief may be obtained by increasing it to ten, fifteen, or even twenty grain doses three times a day. It must be remembered that iodide of potassium is somewhat of a lowering remedy, and its effects should therefore be carefully watched. In many cases it proves advantageous to give it dissolved in the bark mixture (Pr. 13). The syrup of iodide of iron (Pr. 4) taken twice a day, and continued for some months, may prove of benefit, and it is said by some to have the power of completely arresting the progress of the disease.

Arsenic is undoubtedly of considerable value. The indications for its employment are unknown, and its action is apparently somewhat capricious. In some cases it acts like a charm, stiffened joints for a long time considerably enlarged becoming reduced to their natural size, and finally regaining their suppleness. Large doses, as, for example, five drops of the arsenic solution, or its equivalent, five tea-spoonfuls of the arsenic mixture (Pr. 40), three times a day, are necessary to produce this result. This treatment should be resorted to only under the immediate direction of a medical man, as some people are very susceptible to the action of the drug, and it is necessary to know when to stop its administration. It should always be borne in mind that the medicine may have to be taken with but slight intermissions for weeks or months, and that if an improvement does not speedily ensue, it is no proof that the medicine will ultimately prove ineffectual.

Actæa racemosa (*cinicifuga*) yields very satisfactory results in many cases of rheumatoid arthritis. It proves most successful when the pains are worse at night, and it is especially indicated when the disease is traceable to some derangement of the womb, a sudden suppression of the periods, an abortion, or a painful and difficult confinement. It is also indicated where the complaint first makes its appearance at the "change of life." The joints may not be enlarged, and the pains may flit from joint to joint instead of lodging steadily in one place. Painful cramps of the leg, aggravated by cold and wet weather, and by certain winds, frequently torment the sufferer, and break his rest at night. *Actæa* not only frequently gives relief from the pain and cramps, but induces quiet and refreshing sleep. In addition to these cases *actæa* sometimes proves of service when the disease occurs in men, and even when the pains are worse during the day. The *actæa* may be given in five-minim doses of the tincture in a little water every two or three hours.

In many cases local applications prove of service. In the early stages, when there is tenderness and swelling of the joint, temporary relief may be obtained by the application of a blister. When the affection has become chronic, and blisters have effected all they are capable of accomplishing, the application of narrow strips of plaster, one over another, so as to support the joint, may do good. Simple spirit lotions or belladonna liniment well rubbed in will sometimes ease the pain. Friction is usually not only serviceable but grateful. The joint may be well sponged with strong brine, and then rubbed dry so as to cause the salt to be absorbed.

Baths are very useful, especially when the skin is sluggish in its action, but care should be taken that they are not repeated sufficiently often to produce debility. The Turkish bath is often of the greatest service in these cases. The cold, or in winter tepid, douche may be played for about two minutes on the affected joint, which should then be rubbed till it is quite warm and dry. The use of hot sulphur baths often proves of service in chronic cases. An arsenic bath is sometimes employed. It is made by adding to the water four ounces of common washing soda and twenty grains of the salt known as arseniate of soda.

Respecting the diet little need be said. The patient should, if possible, live generously, and beer, wine, or spirits may be taken in moderation. For people whose pecuniary circumstances will admit it, a frequent change of air and scene is to be advocated. Prolonged mental exertion is hurtful, and all causes of anxiety should as far as possible be avoided. A removal to a moderately warm, dry, bracing climate during the winter months is to be advocated. There can be but little doubt that as a rule many of the foreign saline and alkaline waters, such as those of Carlsbad, Wiesbaden, and Vichy, do more harm than good. The springs most adapted for the subjects of rheumatic gout are those which contain iron in some easily digestible form.

RHEUMATISM, CHRONIC.

Chronic rheumatism is a complaint with which few elderly people are altogether unacquainted. It is sometimes the sequel of rheumatic fever, but more frequently a separate constitutional affection coming on quite independently of any previous acute attack. There is at first only slight constitutional disturbance, but the sufferer is constantly annoyed and his existence at length rendered miserable by wearing pains, causing him many a restless night, and destroying all comfort during the day.

The joints which are most frequently the seat of the pain are the knees, ankles, hips, and shoulders. Redness is seldom present in chronic cases, but stiffness and swelling of the joints are common accompaniments of the complaint. In many cases pain is for a long time the only symptom, and even this may be latent unless the part be moved. In some instances the pain is worse at night, being aggravated by the warmth of the bed, but in others warmth affords the greatest relief. It often exhibits great tendency to shift from joint to joint, often subsiding and then recurring. It is usually aggravated by vicissitudes of weather, and especially by the prevalence of east winds and cold and damp states of the atmosphere.

Chronic rheumatism is most common after thirty, and is especially prevalent

among the labouring poor, and those who are exposed to changes of season and weather, and to cold and wet. It is not, however, by any means confined to the poorer classes, for it frequently attacks those whose lot absolves them from the necessity of earning their daily bread. In many cases it is associated with, if not dependent on, derangement of the digestive organs. It is frequently of syphilitic origin, the pains of secondary syphilis being not uncommonly confounded with those of chronic rheumatism.

We must now consider the different methods of treating chronic rheumatism. It is desirable, in the first place, to pay attention to the condition of the general health, and should this be below par, steps should be taken to improve it. Care should be taken to see that the organs of digestion are in proper working order, and that digestion is performed naturally and easily. Such evils as indigestion and constipation should be removed with as little delay as possible. The patient must be protected against atmospheric vicissitudes by warm clothing, and should be cased in flannel from the neck downwards.

Chronic rheumatism, as everybody knows, is a very obstinate complaint, and many different remedies have been used or suggested for its cure. The medicine may be given internally, or the treatment may be purely local, or both methods may be combined. We will speak first of the internal remedies.

Iodide of potassium is a most valuable medicine for this complaint. It is especially indicated when the pain is *worse at night*. As we have already said, the pains of secondary syphilis cannot, as a rule, be distinguished from chronic rheumatism, but the nocturnal increase of suffering is to be regarded as an indication for the employment of iodide of potassium, whether the pain is referable to rheumatism or to some other cause. The fact of a patient suffering from a syphilitic taint would increase the chances of this remedy proving successful. Two table-spoonfuls of the iodide of potassium mixture (Pr. 32) should be taken three times a day.

Salicine, which succeeds so admirably in acute rheumatism, often does good in the more chronic forms. Pr. 12 may be employed.

Rhus toxicodendron, the poison-oak, is useful in rheumatic lameness of the lower extremities. It is indicated in all cases of rheumatism in which the pain is worse when at rest, but is relieved by motion. It also does good where on first moving after rest the pain is increased, and relief is not experienced until gentle and constant motion has been continued for some time. Drop doses of the tincture of rhus may be given in a tea-spoonful of water every two hours. This drug is often somewhat tardy in its action.

Actæa racemosa is useful in many forms of chronic rheumatism of the joints, and is more likely to do good when the pains are worse at night or in wet or windy weather. It has been found by an eminent writer on treatment to be of signal benefit in the following class of cases:—The patient is at first troubled with pains, apparently rheumatic, in most of the joints, unaccompanied by fever or swelling. The disease soon seats itself in one part, as the wrist and hand; the tissues here become much thickened and the bones enlarged, till after a time all movement is lost and the member becomes useless. Warmth allays the pain, and it almost ceases at night. The attack presents many of the characters of gonorrhœal rheumatism,

but there is no history of gonorrhœa. Actæa will often give instant relief in these cases, and restore the joints to their original suppleness and usefulness after iodide of potassium and other remedies have been tried in vain. It may be given in three-drop doses of the tincture every three hours in a tea-spoonful of water.

Aconite (Pr. 38) is often of service, and is more especially adapted to rheumatism of the shoulder and other large joints.

Pulsatilla (Pr. 43) often affords relief when the knee, ankle, or instep is the seat of the complaint. It is especially indicated when the pains fly from place to place. It nearly always proves useful when the patient is a delicate female suffering from some irregularity of the periods.

Bryony (Pr. 49) is useful chiefly when the lower limbs are affected. It is especially indicated when the pain is increased by motion. It has been found to succeed best in people of dark hair and complexion.

Nitrate of potash is indicated when the pains are accompanied by scanty high-coloured urine, becoming turbid on cooling. Ten grains of the salt dissolved in water and taken hourly or every two hours will, in most cases, soon increase the flow of urine and render it clear and limpid, when the rheumatic pains generally decline.

Lime-juice, taken in doses of from six to eight ounces daily, will sometimes prove successful when everything else has failed. It is not uncommon to hear people say that they have gone the whole "round of the doctors" without experiencing any benefit, and have then cured themselves by taking lime-juice.

Guaiacum is often employed, especially in what is called "cold" rheumatism, in which the symptoms are relieved by warmth. Half-drachm doses of the ammoniated tincture of guaiacum may be given every four hours in milk. It is the chief ingredient in the remedy known as "Chelsea Pensioner," which has obtained a great reputation with many old soldiers as a cure for "rheumatics." Its composition is as follows:—

CHELSEA PENSIONER.

Take of Powdered guaiacum, an ounce.
Powdered rhubarb, two drachms.
Bitartrate of potash, a drachm.
Sublimed sulphur, a drachm.
Powdered nutmeg, half a drachm.
Honey, a pound.

To be mixed thoroughly. Two large table-spoonfuls to be taken night and morning.

Another formula is:—

Take of Powdered guaiacum, a drachm and a half.
Mustard powder, three drachms.
Sublimed sulphur, three drachms.
Powdered rhubarb, forty-five grains.
Nitrate of potash, forty-five grains.

Mix thoroughly. A tea-spoonful of the powder may be taken in milk at bed-time, or sufficient honey, treacle, or glycerine may be added to form an electuary, and of this a tea-spoonful may be taken.

We may mention incidentally that "Chelsea Pensioner" is useful in torpidity of the bowels, and is well adapted for the obstinate constipation of elderly people.

So much then for the internal remedies for chronic rheumatism. Let us now consider what local applications are at our disposal for the treatment of this obstinate complaint.

Iodine liniment may often be painted around the affected joints with advantage. It in many cases quickly relieves the pain.

When the pain is confined to one joint, a mustard or linseed poultice will often afford relief.

The application of flowers of sulphur often proves of use. When the complaint is situated in the lower extremities, it is not by any means a bad plan to resort to the old-fashioned custom of dusting the inside of the stockings with sublimed sulphur. A sulphur and linseed-meal poultice, equal parts, may be tried. The local application may be combined with the internal administration of sulphur, the dose being twenty or thirty grains in milk.

Concentrated essence of Jamaica ginger often proves efficacious. A tea-spoonful should be taken two or three times a day in wine and water, or other vehicle, and the affected part well rubbed with a mixture of equal parts of the essence and brandy. Should no benefit be experienced, a piece of flannel should be wetted with this mixture and worn on the part, the application being repeated as often as the skin will bear it.

There are several accessory means of treatment which may be adopted with advantage. For instance, the dull aching in the joints which often remains after an attack of acute rheumatism will often yield to galvanism. This is a mode of treatment which is most likely to prove of service when only one or two joints are affected.

The cold douche is often useful in removing the pain and stiffness of joints crippled by chronic rheumatism.

The cold pack is also frequently successful in these cases.

Warm baths are of great service, and especially baths of salt water at a temperature of not less than 100°.

The Turkish bath will in many cases afford prompt and complete relief, and this is a mode of treatment which we have in many cases seen followed by the most satisfactory results.

Very frequently a course of shampooing would prove successful. A professional shampooer may usually be obtained from the nearest Turkish bath establishment.

When the symptoms are very chronic, the cold sulphurous waters of Harrogate, or the hot sulphur springs of Aix-la-Chapelle, may be resorted to.

Sometimes drinking the alkaline waters of Vichy will do good, or when there is constipation in addition to the rheumatism, benefit may be experienced from a course of Carlsbad waters.

For rheumatic people who can afford it, Ventnor, Hastings, Rome, and Nice would be good winter quarters. A temporary residence at a hydropathic establishment, such as Ben Rhydding or Limpley Stoke, might prove beneficial.

It may be said that we have here a very large number of remedies recommended, but which should we begin with? In the majority of cases we should commence treatment with the iodide of potassium mixture and the Turkish bath. We believe that iodide of potassium is of all others the drug which proves most successful, and

it would even effect a cure in cases in which the nocturnal exacerbation is not a prominent symptom.

We cannot leave the subject of rheumatism without saying a few words on what is known as gonorrhœal rheumatism. This affection consists of inflammation of and about the joints, following an attack of the complaint from which it derives its name. It differs from ordinary rheumatism in many important respects. In from ten days to three weeks after the establishment of the primary disease, one or more of the joints become stiff, painful, and swollen, possibly as the result of the patient having got a chill from exposure to the weather, or from sitting in a draught of cold air. At the same time the feet may be painful, there may be some inflammation about the eyes, and there will be considerable fever, with dry skin, and a furred tongue. The knee is more frequently affected than any other joint, possibly because it is a large and complicated structure, but little protected by muscles from atmospheric influences. The complaint occurs almost exclusively in men, and after the first attack the patient is exceedingly liable to a recurrence. Each attack is usually more virulent in its character than the preceding. After the first visitation slight stiffness may remain for several weeks, and the result of several attacks may be the occurrence of a permanently stiff and disabled joint, leaving the patient a cripple for life.

When the patient has reason to believe that he is suffering from this variety of rheumatism, he should at once consult a medical man, and lay the whole facts of the case before him. If the patient is foolish enough to suppress any part of the history, he may pay a penalty of lifelong misery.

When the complaint is vigorously treated at the very commencement of the attack, its progress may sometimes be arrested. When there is much constitutional disturbance, anti-febrile treatment will have to be resorted to, and it may even be necessary to abstract a small quantity of blood from the arm by bleeding. Leeches applied to the inflamed joints often aggravate the symptoms, and may do more harm than good. The constant application of poultices or hot fomentations to the affected joint, which must be kept absolutely at rest, will prove advantageous. The Turkish bath may be resorted to with very great benefit, the pain often quickly subsiding on the occurrence of profuse perspiration. Abstinence from meat and stimulants is usually absolutely necessary.

In chronic cases a combination of the iodide of potassium mixture (Pr. 32), with the frequent employment of the Turkish bath, is most likely to do good. A capsicum plaster applied over the painful joint, or one or two small blisters, about the size of a shilling, may prove of service. When the patient is much pulled down, it may be necessary to keep up the strength by a slight stimulating and tonic treatment. When the pain and swelling have completely subsided, gentle friction with shampooing may restore mobility to the affected joint. Sometimes it is necessary, in order to restore motion, to manipulate the limb after the patient has been placed under the influence of chloroform.

In conclusion, we would say that gonorrhœal rheumatism is not a complaint to be trifled with, and no man is justified in endeavouring to treat it himself.

RHEUMATISM, MUSCULAR.

This is a complaint which is usually regarded as being closely allied to rheumatism of the joints, the difference in the symptoms being supposed to depend on the peculiarities of the structures which are affected in the two diseases. Doubt has, however, been thrown upon the correctness of this opinion from the circumstance that the complaint now under consideration is never complicated by any disease of the heart or of its membranes.

Muscular rheumatism usually commences as an acute disease, but exhibits a decided tendency to become chronic. It may affect any of the muscles of the limbs or trunk, but is far more likely to occur in certain situations than in others. The seizures are not uncommonly quite sudden—for example, the patient may find on awaking in the morning that he is unable to make a certain movement, or to perform some particular act, without experiencing the most exquisite pain. Usually there is no pain whilst the muscles of the part are quiet, but the slightest movement suffices to excite a paroxysm. On examining the seat of suffering, nothing can as a rule be detected, but sometimes there is slight tenderness on pressure. There is often no fever or constitutional disturbance—at all events at first; but as the complaint progresses there may be thirst, loss of appetite, and even considerable elevation of temperature, as the result of the long-continued pain, and the want of sleep which it occasions.

We know very little respecting the causes of muscular rheumatism. It is most commonly met with in people of full adult age, and not uncommonly in individuals of a gouty habit. Exposure to cold and damp, and the over-use of the affected part, may act as exciting causes. One attack of the disease engenders a liability to its return.

The duration of the complaint cannot be definitely fixed. As an acute disease it is usually of brief duration, but in the chronic forms it often proves very rebellious to treatment, and its duration may be protracted almost indefinitely.

Muscular rheumatism is not confined to any particular region of the body, but may occur in almost any locality. The principal varieties are lumbago and crick in the neck, and we shall speak of the treatment of the complaint under these two headings:—

A. Lumbago.—This is a rheumatic affection of the muscles of the loins, those on one or both sides being involved. It is frequently very sudden in its mode of onset, the pain seizing the patient “all of a moment.” The pain is usually increased by every movement of the lower part of the spine, and by pressure upon the muscles of the affected part. It is not uncommon to see patients with lumbago leaning forwards and walking almost double. If they are told to “touch their toes” they generally express their inability to do so, although in many cases it appears on investigation that the pain is caused not so much by bending down as by the effort to get up again. Sometimes, however, the mere effort of stooping is very painful. We remember being told by a hospital patient a story which forcibly illustrates this fact. He was a butcher by trade, and his lumbago had been caused by lifting heavy weights and carrying the carcasses of sheep, bullocks, &c., on his

back. His complaint was very obstinate ; he was incapacitated from following his ordinary occupation, and, being unable to obtain other work, was in a few weeks reduced to the brink of starvation. One day, when very "hard up," he was strolling in Regent's Park, when he saw a sixpence lying in the grass. It seemed almost a godsend to him, and he was on the point of stooping down to pick it up when the pain in the loins seized him, and he was unable, in spite of his utmost efforts, to get near it. He described very graphically how he stood for over an hour looking at the sixpence, and fearing every moment that some one should come up and claim it. The method he finally adopted of obtaining the long-coveted treasure was, we trust under the circumstances, not very culpable. Seeing a little girl playing on one of the adjoining walks, he called her, and said, "Here, my dear, I've just dropped sixpence. Will you pick it up for me?" and in another moment it was in his possession. In this instance the patient was as powerless to stoop down and pick up that coin as if he had been paralysed. He had not actually lost the power of moving, there was no palsy, but he dare not move, because the effort gave him so much torture.

The remedies for lumbago are, as might be supposed, chiefly local. There are, however, other methods of treatment which are often attended with satisfactory results.

When the pain is very severe, relief may, in the majority of cases, be obtained almost immediately by an injection of morphia under the skin. This is a fact which has been known to medical men, and extensively employed for many years. The only objection that can be urged against it is, that in many people morphia gives rise to headache, giddiness, and other unpleasant symptoms. Quite recently a French physician made a somewhat curious discovery. He had a patient whom he had frequently treated with hypodermic injections of morphia for acute attacks of lumbago, but always with the production of a train of unpleasant constitutional symptoms. One day the patient called to say how glad he was to find he had made some alteration in the medicine, for the last injection had relieved the pain as usual, but had not produced any headache or giddiness. The doctor at once declared that he had used the same morphia solution as usual, and in order to convince the patient, sent for the bottle to show him. On examination the bottle was found to contain nothing but water, and on inquiry being instituted the servant confessed that some days before she had accidentally upset the bottle and spilled the contents, and that, fearing detection, she had filled it with water. The doctor at once saw that the fact was of value, and hastened to publish the discovery to the world. It then appeared from the testimony of numerous trustworthy observers that even the water was not essential, that it was the puncture with the needle which did good, and that equal benefit might be obtained without the injection of any substance at all.

The treatment of lumbago by "acupuncture," as it is called, is attended with the most favourable results. We have seen cases in which the relief has been instantaneous. The mode of procedure is very simple. The patient stands upright, holding up his shirt behind so as to expose the loins. The

only apparatus required is a good, strong, sharp needle, such as is ordinarily used as a shawl-pin. The person who is about to perform the friendly office for the patient grasps the needle firmly in his hand, and suddenly thrusts it for the distance of an inch or two into the loins over the painful part. The pain of the puncture is but momentary, and the needle, instead of being withdrawn, may be advantageously left sticking in for a few minutes. When the lumbago is double, the operation should be performed on both sides of the loins. We have cured many cases of lumbago by this method, and have never known it to be followed with any unpleasant consequences. Most instrument-makers keep needles fitted in bone handles for the performance of this operation, but the domestic substitute to which we have referred will answer equally well.

The Turkish bath, which is such a valuable remedy for nearly all complaints of a rheumatic nature, may be used with advantage in lumbago.

When a Turkish bath is not obtainable, the ordinary domestic linseed poultice may prove of service. In acute lumbago, poulticing often brings speedy relief, the severest cases being greatly benefited in a few hours, and generally cured in one or two days. The poultice must be very hot, and large enough to cover the whole loins or the part affected, and thick enough to remain quite hot for at least half an hour, when it must be changed. Should no benefit be obtained, this treatment should be continued for three hours or longer, then the skin must be covered with a piece of flannel, which in its turn is covered with oil-silk. This after-treatment, like that of the poultices, promotes free perspiration, upon which mainly depends the efficacy of this plan.

A diametrically opposed method of treatment, that of freezing the painful part, may sometimes be adopted with advantage. Two parts of finely-powdered ice, with one of common salt, are put in a gauze bag, and placed in contact with the skin until the sensation is abolished, and it has a leathery feel, and a shrunken, tallowy appearance. The application should not be continued for more than five or six minutes, or it may cause a blister.

One of the best and most convenient methods of freezing the part is by spraying upon it with ether, the evaporation of which produces intense cold. The spray apparatus which will be found most convenient for the purpose is known as Richardson's. It is that which is described and figured whilst speaking of the inhalation of ipecacuanha wine in the treatment of winter cough. A single application of the ether spray will in many cases afford speedy relief in lumbago.

The use of galvanism is not uncommonly attended with the most satisfactory results, the passage of what is known as the "interrupted current" effecting a speedy cure. When electricity, the needle, or poultices fail to give more than slight temporary relief, it will often be found that the lumbago is accompanied by high fever, and that it is in reality the first symptom of an attack of acute rheumatism or some other febrile disease.

The application of a good strong plaster over the loins will, by affording support to the parts, often give relief. Either the chalybeate plaster or the pitch plaster may be employed. It is desirable to have it spread on leather or some equally durable and substantial substance. In summer it is a good plan to have it

punched all over with a number of little holes, to admit of the evaporation of the perspiration, so as to avoid the troublesome itching which would be caused by its retention. Care should be taken to see that the plaster is smoothly and equally applied. An attack of lumbago, affecting perhaps the whole loins, often leaves behind it one painful spot which may cause distress only when the body is moved in one direction. Remains of a lumbago like this generally resists the usual methods of treatment, the pain being driven from one spot only to re-appear at another. A large belladonna plaster will generally mitigate the complaint, should it fail to remove it altogether.

Of the internal remedies, iodide of potassium and nitrate of potash (nitre) may prove useful under the conditions and in the doses referred to whilst speaking of chronic rheumatism. The former salt, however, not unfrequently fails to affect lumbago, even when the complaint is distinctly worse at night.

It has been claimed for *actæa racemosa* (*cimicifuga*) that it subdues lumbago more effectually than any other remedy. It is well worth trying in obstinate cases, but it must be admitted that it often fails. The dose is five drops of the tincture every two hours.

Rhus toxicodendron is useful in many cases of chronic lumbago. It is indicated when the pain is worse when the patient is at rest, but is relieved by movement, and also in cases in which on first moving after rest the pains are increased.

Sulphur in small doses is frequently of much advantage, and it can be administered either in substance or in the form of the sulphur waters of Aix-la-Chapelle, of Aix in Savoy, or Barèges. Arsenic (Pr. 40) is likewise occasionally adopted as a remedy in long-standing obstinate cases.

B. Crick in the Neck.—Crick in the neck, stiff neck, or, to use the technical term *torticollis*, is usually the result of a cold or of exposure of the affected part to a current of cold air. The pain is sometimes in the back of the neck, but more frequently it affects only one side, the patient being in the latter case compelled to hold his head awry in order to relax the muscles. A patient suffering from a stiff neck not uncommonly presents a somewhat comical appearance, and is often made the subject of much ridicule and joking, but for all that the complaint is a very painful one, and is sometimes very intractable to treatment. A stiff neck in children is not uncommonly the cause of a considerable elevation of temperature, the fever lasting three or four days or more.

When the pain of acute *torticollis* is very great it may be necessary to endeavour to obtain relief by the administration of a hypodermic injection of morphia. Local applications, however, not unfrequently prove successful. Hot fomentations are very valuable, as, for example, a piece of spongio-piline wrung out of hot water and applied either alone or sprinkled with laudanum, or belladonna liniment, or a combination of the two. Turpentine often proves useful in these cases. Over a flannel rung out of hot water a little turpentine should be sprinkled and applied till it produces redness, tingling, and smarting. It is well to bear in mind that as the smarting arising from the turpentine goes on augmenting for some time after its removal, the application should be kept on only just sufficiently long to excite a moderate degree of pain.

Undoubtedly one of the best remedies for a stiff neck is an infusion of capsicum, red pepper, or chillies, as it is sometimes called. The mode of preparation and application is sufficiently simple. You infuse a large handful of crushed capsicum pods in a pint of hot or cold water for thirty-six hours. You then soak a piece of lint in this infusion and apply it to the affected part, covering it all over with a thin piece of gutta-percha or oil-silk to prevent evaporation. This mode of treatment was long and successfully employed by a quack in the west of England. It never blisters or causes any inconvenience, and is so prompt in its action that it will often completely cure a bad case in ten minutes.

In the majority of cases we should put our trust in local applications, and above all in the capsicum treatment. The Turkish bath often proves useful as an adjunct.

SCARLET FEVER.—(*See DISEASES OF CHILDREN*, p. 41.)

SCIATICA.

Sciatica is neuralgia affecting the large nerve running down the back of the thigh. It not infrequently arises from cold, but may be due to other causes. The pain may be felt chiefly in the region of the hip-joint, or may extend almost to the foot. It is usually severe and greatly aggravated by movement. Not infrequently it is very persistent and difficult to cure.

Hints as to treatment may be gathered from a perusal of the articles on NEURALGIA and RHEUMATISM. It would be well to begin with a course of iodide of potassium, as recommended at page 479, two table-spoonfuls of the mixture (Pr. 32) being taken three times a day. This might be conjoined with the employment of Turkish baths, one being taken daily or alternate days. Should this not succeed, the dose of the mixture may be doubled, and the application of hot linseed meal poultices (*see* p. 485) substituted for the Turkish bath. Should this, too, unfortunately fail, chloride of ammonium might be taken internally (*see* p. 418), and the aconite ointment (p. 421) applied locally. A large blister running down the back of the thigh from the hip to the knee-joint often affords speedy relief. It may be raised by the application of blistering fluid, and if covered with a large sheet of cotton wool, gives rise to very little pain or inconvenience. Acupuncture (p. 484), galvanism (p. 485), and freezing (p. 485) with ice or ether spray, are all useful modes of treatment, and may be tried in turn. Sulphur, an old-fashioned remedy (p. 481), will sometimes effect a cure, as will the application of an infusion of chillies, as mentioned above (p. 487).

Turpentine, twenty drops in a little milk three times a day, is another good remedy. Some doctors give more than this, as much even as a table-spoonful every night at bed-time for a week or more. In obstinate cases it may become necessary to employ hypodermic injections of morphia.

SCURVY.

Scurvy, or scorbutus, as it is technically called, is a disease which is caused by the continued use of a dietary deficient in fresh vegetables.

It is considered by many that scurvy, either alone or by increasing the severity of other diseases, has proved more destructive to human life than any other disorder.

Scurvy occurs only when fresh vegetable food has been for some time partially or completely withheld. Various complaints follow the want of other descriptions of food, but scurvy never makes its appearance unless the supply of vegetables is limited.

The evidence on which this statement rests is of the most conclusive character, and no doubt can be entertained as to its correctness.

The year 1846, in which there was a failing of the potato crop in many parts of the country, was remarkable for the prevalence of scurvy. The disease occurred largely among the labourers employed in the construction of some of the Scotch railways, and in many cases proved fatal. The men were, as a rule, earning good wages, and were well fed ; indeed, their extravagance in good living was a frequent subject of remark, but vegetables were in the majority of cases unattainable. Their dinner usually consisted of bread, boiled beef or bacon, pea-soup or broth, and suet puddings containing currants, and many of them were in the habit of breakfasting off beef steaks and mutton chops. For all that, however, very few of them had tasted potatoes since the failure of the crop, a period of over seven months.

In the same year in Ireland, where the disease proved very prevalent, it was found that in a certain district four-fifths of the people attacked were living on bread and tea or coffee, and that the remainder had nothing additional but a little grain or an occasional piece of meat or fish. In no single instance could it be discovered that potatoes or green vegetables formed an habitual article of the sufferer's diet.

The allied armies of England, France, Turkey, and Sardinia suffered severely from scurvy during the Crimean war. The total number of our men admitted into the hospitals with scurvy during the war amounted to considerably over 2,000 ; but we are told on authority that "the returns convey but a faint conception of the disastrous part which it acted among the troops, for although it comparatively rarely presented itself in well-defined forms, and as an independent infection, yet the prevalence of scorbutic taint was wide-spread, and in a vast proportion of cases evident indications of it existed as a complication of other diseases, especially fever and affections of the bowels." Sad as this history is, it is satisfactory to note that when fresh vegetables and lime-juice were served out, the complaint almost entirely disappeared. The sufferings of the French from scurvy were much greater than those of our troops ; and it is said that among them no less than 23,000 cases occurred. It is probable that the Turks suffered even still more severely, and there is no doubt that the original force which formed part of the expedition from Bulgaria to the Crimea was almost entirely swept off by disease, of which scurvy formed an important element.

During the last American war, raw potatoes preserved in molasses were frequently issued to the troops, and were found to be of signal service in warding off scurvy. It is true the disease prevailed to a great extent in the United States

army, but it was when the men were obliged to live on marching rations and it was impossible to provide them with fresh vegetables, or any anti-scorbutic.

Since the year 1795, scurvy has been all but abolished from the British fleet, and when we remember that the security of this country has been on several occasions imperilled by the forced disestablishment of the Royal Navy through the ravages of this disease, it will we think be granted that we have something to be thankful for. It is to Dr. James Lind, "the father of nautical medicine," that we are indebted for the discovery that lime-juice has the power of warding off scurvy. It was, however, nearly half a century after the publication of Dr. Lind's celebrated work that any serious attempt was made to utilise it. In 1780 the number of cases of scurvy received into Haslar hospital was 1,457, in 1806 *one* only, and in 1807 also *one*. Scurvy is now so uncommon that many medical men, unless they happen to practise in a seaport town, have never seen a case. At the same time there is a growing opinion that scurvy is not such a rarity in the merchant service as it ought to be. Although the Legislature insists, under a penalty, that lime-juice or lemon-juice should be issued to the crews of vessels on long voyages, there is evidence to show that the provisions of the Act are but too frequently evaded, one of the best proofs being that the *Dreadnought* hospital still continues to receive annually an average of ninety cases of the disease. There can be no doubt that very frequently no lime-juice at all is furnished, or a cheap imitation, consisting of tartaric acid, sugar, and water, flavoured with essence of lemon, is substituted.

The "inexplicable and unlooked-for" outbreak of scurvy amongst the crews of the *Alert* and *Discovery*, whilst engaged in the Arctic expedition, is too fresh in the minds of our readers to call for any detailed notice.

Patients who, from disease of the stomach or other similar cause, are unable to take solid food, and are obliged to live almost exclusively upon beef-tea, are sometimes attacked with symptoms of scurvy. It is only necessary to bear this fact in mind to guard against its occurrence.

It has been frequently urged that scurvy might possibly arise from some other cause besides a deficient supply of vegetable food, as, for example, the long-continued use of salt provisions. We have not the slightest hesitation in saying that this proposition is untenable, and for two reasons:—(1.) There is no case of scurvy on record occurring in a person adequately supplied with fresh succulent vegetables of good quality. (2.) The occurrence of scurvy in persons living upon salt meat may be prevented by the regular administration of fresh vegetables or lemon-juice.

It has also been said that monotony of diet is an important element in the production of scurvy. The answer to this is that probably one of the most monotonous dietaries in the world is that upon which the poor inhabitants of Ireland thrive, consisting as it does almost entirely of stirabout, milk, and potatoes. They are a fine, well-built, often athletic race, and so long as they can obtain this food scurvy is unknown, but when the monotony is broken by the failure of the potato crop, the disease soon makes its appearance.

The symptoms of scurvy can hardly be mistaken. The earliest sign of the disease is a change in the colour of the skin, which becomes pale and sallow, and even assumes a greenish tinge. Contemporary with this is a peculiar listlessness,

and a disinclination for exertion either mental or physical. The patient usually complains of pains in the limbs, which he generally attributes to rheumatism. He seldom displays any anxiety about his health, and seems quite indifferent on the subject. He is keenly alive to any change in the appearance of his companions, but it is often a matter of no little difficulty to make him understand that he is suffering in the same way, or that anything is the matter with him. At first his appetite remains good, and his digestion continues tolerably perfect, but usually the bowels are confined. After a time petechiæ, or little spots like flea-bites, make their appearance on the legs and arms. They are small, of a reddish-brown colour, and are not elevated above the surface of the skin. Besides these, larger spots of an irregular shape, and apparently formed by the coalescence of several petechiæ, are observable about the lower part of the legs and on the feet. In many cases they so closely resemble bruises as actually to be mistaken for the result of violence. The general aspect of the patient is that of indifference or dejection. The face usually wears a peculiar bloated appearance. The eyes are often puffed up so that the patient looks as if he had been fighting. The gums present a peculiar condition, which is nearly always present, and may be considered as being characteristic of the disease. At a very early period they begin to swell at the edges, and this gradually progresses so that the teeth are encroached upon, and eventually almost disappear from sight in the huge fleshy masses which encompass them. The swollen gums are spongy, of a dark red colour, and display a disposition to bleed upon the slightest irritation. The teeth frequently become loosened in their sockets, and sometimes fall out. As may readily be imagined, chewing is out of the question, and even fluid nourishment is taken with difficulty. The smell from the breath, in consequence of the state of the gums, is generally most offensive. The skin is very dry, and often scales off with great readiness.

As the disease progresses, large swellings or tumours make their appearance in the bend of the elbow and at the back of the knee. The skin over these enlargements may retain its natural appearance or may become greatly discoloured.

Whilst these symptoms are gradually progressing, the patient suffers greatly from shortness of breath. He is frequently subject to attacks of fainting, and these have been known in many cases to prove suddenly fatal. The intellect, as a rule, remains unaffected, but listlessness is a constant symptom, and is often associated with great depression of spirits.

In confirmed cases the slightest blow or pressure breaks the skin, giving rise to the formation of the most obstinate ulcers, which heal with the greatest difficulty. They increase rapidly in size, and often eat into the flesh so as to lay bare the blood-vessels and nerves, and even the bones. They often give rise to dangerous bleeding, the exhaustion consequent upon which sometimes proves speedily fatal.

A peculiar affection of the sight often makes its appearance during the course of the disease. The patient can distinguish objects well enough by daylight, and even at night can read a book held close to a candle, but the moment he passes from the influence of the light he becomes absolutely blind, and has to be led about.

We must now consider the best method of treating scurvy. This necessarily consists of supplying the patient in the most easily assimilable form with that

material by the deficiency of which his disorder has been produced. Fruits and salads should be eaten *ad libitum*, and fresh lemon-juice, made into lemonade, should be taken in large quantities. The existence of diarrhœa or any other complication should form no excuse for withholding this treatment. No drug will do any good until the patient has vegetables or some anti-scorbutic remedy, and when this is administered an amelioration in even the most serious symptoms will soon be perceived. Lemon-juice is probably more easily digested than any other form of vegetable food, but oranges, limes, cabbage, lettuce, potatoes, onions, mustard and cress, dandelion, sorrel, or grapes, will answer almost as well. It is said that water-cresses prove quite as efficacious as lemon-juice in curing scurvy. Bael fruit has been highly recommended for the looseness of the bowels, which often accompanies this complaint. In addition to the administration of anti-scorbutic remedies, the patient's strength must be improved by such a diet as will most easily contribute to his nutrition. He may have beef-tea and eggs beaten up with wine, or, if he can bear it, solid fresh meat, roasted or boiled, with mashed potatoes, cabbage or salad.

There are certain fruits and vegetables in addition to those we have already mentioned which have the power of warding off scurvy and promoting its cure.

Amongst these may be mentioned apples, which often prove useful, but are far inferior to either oranges or lemons. Sauer-kraut has long been recognised as being very efficacious in this respect. It was by providing his crew with abundance of sauer-kraut, and encouraging them to seek for wild vegetables whenever he landed, that Captain Cook preserved their health during a four years' voyage in his ship *Discovery*. In the last American war the yam, which is extensively cultivated throughout the South, was found very beneficial. It is supposed from the immunity of infants from scurvy that milk possesses the power of preventing this disease to a large extent. A similar property is also attributed to many of the light French wines. Vinegar has undoubtedly well-marked anti-scorbutic powers. It is said that the efficacy of fruits in the treatment of scurvy is owing to the tartrate of potash, citrate of potash, and malate of potash which they contain, and these salts are consequently often administered, and apparently with advantage, when fresh vegetables cannot be obtained.

Spruce beer is an excellent thing for warding off scurvy. The essence of spruce is prepared by boiling down to concentration the young branches of the black spruce fir (*Abies nigra*). Take of this essence half a pint, bruised pimento and ginger of each four ounces, water three gallons. Boil for five or ten minutes, then strain, and add eleven gallons of warm water, a pint of yeast, and six pints of molasses. Mix, and allow the mixture to ferment for twenty-four hours. This was found very efficacious by Captain Cook in his voyages. It is an agreeable and wholesome drink in warm weather, and it has been suggested that it should be used in the merchant service instead of rum, which has no power of preventing scurvy. We are afraid the men would fail to appreciate the change.

A list of measures to be adopted in time of war, or in prolonged sojourn on board ship, or at stations where fresh vegetables are scarce, was drawn up

by the late Dr. Parkes, and they are so essentially practical in their nature that they cannot fail to be of service. We reproduce them in a slightly condensed form :—

1. The supply of fresh vegetables and fruits by all means in our power. Even unripe fruits are better than none, and we must risk a little diarrhoea for the sake of their anti-scorbutic properties. In time of war every vegetable should be used which it is safe to use, and when made into soups almost all are tolerably pleasant to eat.

2. The supply of dried vegetables, especially potato, cabbage, and cauliflowers; turnips, parsnips, &c., are less useful; dried peas and beans are useless. As a matter of precaution these dried vegetables should be issued early in a campaign, but should never supersede fresh vegetables.

3. Good lemon-juice should be issued daily (one ounce), and it should be seen that the men take it.

4. Vinegar (half ounce to one ounce daily) should be issued in the rations and used in cooking.

5. Citrate of potash or tartrate of potash should be issued in bulk and used in water as a drink or added to the food. The easiest mode of issuing these salts would be to have packets containing enough for one mess of twelve men, and to instruct them how important it is to place them in the soups or stews. Possibly they might be mixed with salt and issued merely as salt.

The following directions for the preservation and use of lemon-juice were issued by the Board of Trade. They are intended chiefly for the information of shipowners and shipmasters, but are likely to prove of service under other circumstances.

Every ship on a long voyage should be supplied with a proper quantity of lime or lemon juice.

The juice, having been received in bulk from the vendors, should be examined and analysed by a competent medical officer. All measures adopted for its preservation are worthless, unless it can be clearly ascertained that a pure article has been supplied.

Ten per cent. of brandy (sp. gr. 930) or of rum (sp. gr. 890) should afterwards be added to it.

It should be packed in jars or bottles each containing one gallon or less, covered with a layer of oil, and closely packed and sealed.

Each man should have at least two ounces (four table-spoonfuls) twice a week, to be increased to an ounce daily if any symptoms of scurvy manifest themselves. The giving out of lime or lemon juice should not be delayed longer than a fortnight after the vessel has put to sea.

SEA-SICKNESS.

We have no intention of entering into a scientific discussion as to the causes of sea-sickness; those of our readers who are not suffering from *mal de mer* would probably be but little interested in it, whilst those who are paying involuntary tribute to old Neptune are certainly not in a fit condition to appreciate it. There is

probably no derangement of organic function not absolutely a disease which causes a greater amount of suffering, and is more frequently fraught with real danger to health, and even life, than sea-sickness.

We will proceed at once to discuss the different modes of treating the distressing malady. Some people have advocated the use of certain drugs and medicinal agents, whilst others have relied solely on mental measures. These latter, it seems to us, can be of use solely as adjuncts. That the mind does exert a powerful influence over even such a frightful malady as sea-sickness no one can deny. This is stated to be observed in a striking manner in shipwrecks, when danger instantly renders everybody alert, even those who but a moment before were prostrate and reeking not what became of them. Some time ago a letter appeared in one of the papers recommending people threatened with sea-sickness "to hum a tune with regular and rather prolonged cadences." The writer says it proved most successful in his own case, and warmly advocates its general adoption. It can hardly be expected, however, that the passengers would consent to form themselves into a temporary choral society, or that this mode of treatment could be successfully maintained during a long voyage. Much importance has been attached to retaining the horizontal position from the first moment of going on board, but this alone will not suffice to ward off an attack. In fact, we could hardly expect that it would do so, for it is well known that many animals whose position is not vertical suffer severely from sea-sickness. Thus it has been reported that an elephant crossing from Boulogne to Folkestone was greatly distressed, and dogs are not unfrequently sick in crossing the Channel. There is no doubt that one's position with regard to the vessel is not without its influence. The nausea which with the face to the bow is trifling may be increased to immediate vomiting by turning round into the opposite position for a few minutes. In association with this fact it will be remembered that the motion in a swing, which is agreeable as long as the eyes are open and the movement watched, is changed to intense nausea as soon as the eyes are closed and the motion unforeseen. Moreover, it is well known that many people feel sick when riding in a carriage with their backs to the horses.

Of late years the treatment of sea-sickness by means of the spinal ice-bag has come into vogue, and the evidence adduced in its favour is very striking. It is supposed that in sea-sickness there is an abnormal supply of blood to the spinal cord, and it is obvious that upon this supposition any mode of treatment which would reduce this quantity would prove beneficial. At first sight it would seem that the application of ice to the spine would be anything but agreeable; but those who have used it are unanimous in asserting that, on the contrary, it is quite pleasant. It is obvious that ice applied in bladders, or by any of the ordinary methods, would occasion great discomfort, and would restrain the movements of the patient, and compel him to remain for the most part in one position. The spinal ice-bag is made of india-rubber, the mouth being closed by means of a clamp, which effectually prevents the water from escaping as the ice melts. These bags, which are usually known as "Chapman's spinal ice-bags," may be obtained from most surgical instrument makers and druggists. The following sizes are made:—8, 10, and 12 inch, suitable for children; 14, 16, and 18 inch, suitable for boys and

girls ; 20 and 22 inch, suitable for women ; 24 and 26 inch, suitable for men. The bags are divided into cells—usually three. By this arrangement the ice is prevented from falling to the bottom, and can be kept accurately in contact with all parts of the spine. It is of importance not to fill the cells sufficiently to make them round, or only a small portion of the bag will touch the skin. The mouths of all the cells are effectively closed by means of the clamp, so that not a drop of water can escape even when all the ice has melted. Before purchasing it is as well to see that the clamp acts properly. Directions for filling and applying accompany each bag, so that no difficulty will be experienced on this score. The bag is retained in position by means of tapes, or may be sustained in the case of men by buttoning the waistcoat and coat lightly over it, or, in the case of women, by tightening the dress in like manner. When properly secured the wearer need not

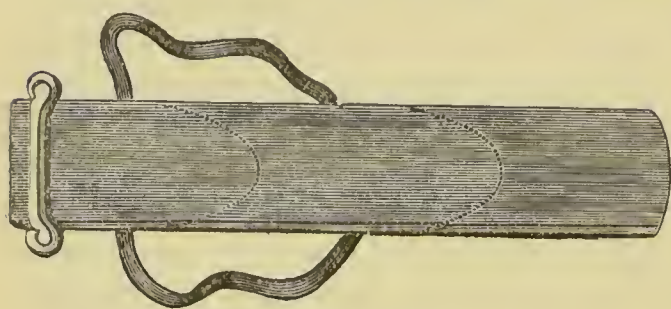


Fig. 9.—SPINAL ICE-BAG.

remain lying down, but is able to sit up or walk about as usual. For short passages the bag should be filled before starting, but on most of the trans-Atlantic steamers ice is obtainable in any quantity, and the bag may be replenished as necessity indicates. Each bagful when applied to the back melts in about a couple of hours. For the

passage between Dover and Calais one bagful suffices, and one will be sufficient between Folkestone and Boulogne unless in cases of unusual severity. Between Newhaven and Dieppe three bagfuls are required, and between Dover and Ostend two. As the Channel steamers do not usually carry ice, at all events in sufficient quantities for filling ice-bags, intending passengers should have the bag filled in London, and then wrapped up in a shawl or in flannel vests or petticoats or other non-conductors of heat that may happen to be in their portmanteaus or carpet bags. In warm weather it may be advisable to have the ice-bag packed in a box containing sawdust. For passages of several hours' duration it may be necessary to carry a supply of ice, properly packed by the ice merchant, and an ice-breaker for the purpose of reducing it to fragments. From two to three pounds of ice for every two hours the passage lasts is the quantity required for an adult. People whose liability to sea-sickness is not very great will usually find that the malady may be wholly prevented by the application of the ice-bag as soon as they begin to feel squalmish. In all cases the ice-bag should be placed in immediate contact with the skin, and it is recommended that it should not be brought higher up the spine than the middle of the back of the neck. When the patient is lying down, the ice-bag has a tendency to slip upwards to the back of the head, but this is easily remedied. People who are unusually prone to suffer from sea-sickness should apply the bag immediately on going on board, or before the vessel starts. In the case of women far advanced in pregnancy the bag should not extend as low down as the loins. As auxiliary measures, swallowing little pieces of ice, and the application of a hot-water bottle to the feet, are of importance.

When ice or the ice-bag is not at hand, an inhalation of nitrite of amyl may be employed with advantage. Three drops of the nitrite of amyl are poured on a pocket handkerchief, and held close to the nose. The inhalation must be conducted rapidly, so as to obtain the full influence of the drug. It may cause flushing of the face and a feeling of pulsation in the head, but these effects are temporary, and soon pass away. A warm and comfortable glow then takes the place of the chilly sweat which is so disagreeable in this complaint, and is usually followed in the course of half an hour or so by a pleasant slumber, from which the sufferer awakes to eat a hearty meal. Should the sickness recur, as it may do, after the lapse of twenty-four hours, the inhalation must be repeated. It is desirable that the patient should be in bed, or in the recumbent position, when under treatment, so as not to interfere with the subsequent sleep. One doctor, recording his experience, states that out of 124 cases of *bonâ fide* sea-sickness this mode of treatment proved eminently successful in 121, there being no return of the vomiting after the inhalation of the nitrite of the amyl, and the remaining three cases were unsatisfactory only in so far that they required a further dose or so of the amyl. Many chemists now keep little glass capsules, each containing three or five drops of nitrite of amyl. They may be used with advantage.

A very good remedy for sea-sickness is chloral, but whether it acts by simply benumbing the nerves of the stomach, or by reducing the susceptibility of the whole nervous system, we do not know. At all events, a passenger may take thirty grains of chloral at Dover, fall into a drowsy, half-conscious state, and find himself at Calais free from sickness. Sometimes one or two drops of pure chloroform taken in a wine-glass of water will prove efficacious. Hypodermic injections of morphia are occasionally resorted to, but their use is not justifiable until other remedies have been tried and failed.

The substance known as petroleum, mineral naphtha, or rock oil, enjoys a high reputation in the treatment of sea-sickness. It should be taken on going on board, a drop or two on a small piece of sugar, and repeated every two or three hours. A pill containing three drops of creosote is another good remedy.

Ipecacuanha wine, in drop doses, which proves so successful in the treatment of many kinds of vomiting, would probably succeed in sea-sickness, although we are not acquainted with the records of any cases in which it has been tried.

Recent experiments seem to show that cocaine is a promising and harmless remedy against sea-sickness. An authority on the subject recommends that the drug be administered in doses of $\frac{1}{4}$ to $\frac{1}{3}$ of a grain, dissolved in water (1 in 10) three times a day, with a small piece of ice.

A surgeon on board one of the vessels of the White Star line recently informed us that in obstinate cases he had often obtained relief by the use of iced dry champagne. It is essential, he says, that the wine should be dry, for sweet champagne only makes matters worse.

In the Levant the daily internal use of iron is a very common cure for sea-sickness. Sailors, when suffering from this complaint, obtain their iron in a very primitive manner, for they scrape off a portion of the rust adhering to the anchor and anchor-chain, and then swallow it in a little water.

SHAKING PALSY, OR PARALYSIS AGITANS.

This is an affection not uncommonly met with in old people. It is characterised by the occurrence of involuntary tremulous or shaking movements of the limbs, head, or body. It occurs almost exclusively in men, and the large majority of cases are met with above the age of fifty. In some instances it appears to be hereditary; for we had recently under our care a patient with this complaint whose father had suffered in the same way for many years. It is said that it may be caused by violent muscular exertion, by injuries or wounds, by excessive terror or mental emotions, but the evidence on this point is far from conclusive. It is supposed that in some cases rheumatism has laid the foundation for this lamentable disease.

The onset of the complaint is generally insidious, and the progress is so slow that the patient has often a difficulty in saying exactly when it began. A feeling of weakness or a disposition to tremble fastens upon some particular part, most commonly one hand or arm. The tremors are aggravated by mental emotion or agitation, whilst rest and quiet diminish or stop them. Usually they may be controlled by grasping a weight, or by a slowly and deliberately-performed voluntary act. These tremors, at first slight and occasional, gradually increase, and after a time extend to other parts. The patient experiences considerable difficulty in performing any act requiring manipulative dexterity. He becomes unable to read or write or hold a book, and often has considerable difficulty in dressing and feeding himself. He finds it almost impossible to drink in the ordinary way, the fluid being spilled and the glass or cup knocked to and fro against the mouth. Patients deprived of assistance have sometimes been obliged to lap water like a dog. It is very painful to witness the struggles of the sufferer in his efforts to effect some desired movement; the more he tries the worse he becomes. He is even obliged to walk with circumspection, and the legs are not raised to the height nor with the promptness the will directs, so that much attention is requisite to prevent falling. Sometimes a difficulty is experienced in preserving the upright posture when sitting or standing, but especially in walking there is a propensity to lean forwards, which gradually increases, and the patient is in constant danger of falling on his face. The forward tendency may become invincible. Forced to walk on the toes and fore part of the feet, while the body is thrown forwards, the patient is irresistibly impelled to take short quick steps, and to adopt unwillingly a running pace—in fact, he is obliged to run to keep up with himself. Sometimes, in advanced cases, an attendant has to step backwards in front of him, with his hands placed on his shoulders, in order to maintain his equilibrium. This forward tendency is not observed in every instance, and the tremors often occur alone. Occasionally, though rarely, there is a disturbance of balance in the opposite direction, and the patient is impelled to run backwards. We are told of a man who had to be balanced to and fro before starting, and who, if arrested in his forward movement, immediately began to hurry backwards, and could not stop himself.

Our description refers chiefly to severe and advanced cases. In many instances the complaint is so mild and its progress so slow, that were it not for the inconvenience arising from the unsteadiness of the hand in writing and other manipulations the

patient would not consider that he was suffering from any complaint at all. Sometimes the affection is confined to the muscles of the neck, and then the head is always nodding or shaking from side to side. In these slowly progressive cases the disease has no tendency to shorten life, and its duration may be indefinitely prolonged. An inmate of the Chelsea Hospital who was first affected at the age of sixty lived to be 107.

When fully established it is an obstinate complaint, and not at all amenable to treatment. The mere violence of the movement, however, is no evidence of incurability, for slight tremors are sometimes the most obstinate. Benefit is often experienced from the administration of phosphorus (Pr. 53 or 54), or arsenic (Pr. 40). The general health may be improved by cod-liver oil, or extract of malt. The application of galvanism by a medical man often does good.

SHINGLES. (*See SKIN DISEASES.*)

SLEEP—SLEEPLESSNESS.

For the maintenance of an organ in a condition of health it is necessary that it should be allowed intervals of rest, during which the processes of nutrition and repair may go on undisturbed. Even those actions which are most continuous, such, for example, as respiration and the pulsation of the heart, have distinct periods of suspension. Thus after each beat of the heart there is an interval, during which the organ is at rest. This amounts to one-fourth of the time requisite to make one pulsation and begin another. During an aggregate of six hours out of the twenty-four the heart is not working, and is in a state of repose. It takes short periods of rest, like a sailor, but it has its due allowance of sleep for all that. And this, too, is equally true of breathing. If we divide the respiratory act into three equal parts, one will be occupied in inspiration, one in expiration, and the other by a period of quiescence. During eight hours out of the twenty-four the chest and lungs are inactive. And so with the other organs of the body, each has its time for work and its time for rest. And of our muscles, none, even during our most untiring waking movements, are kept in continued action. We may be "on the move" all day, but for all that we are not moving every part of the body at the same moment, or we should soon be exhausted, and our muscles would refuse to perform their office.

But for the brain there is no real rest, except during sleep. So long as the individual is awake he is always thinking, the brain is always active, always "on the work," and there is no such thing as rest. No man yet ever succeeded in thinking of nothing at all; you cannot do it if you try. The substance of the brain is consumed by every thought, by every action of the will, by every sound that is heard, by every object that is seen, by every substance that is touched, and by every painful or pleasurable sensation, so that each instant of our lives witnesses the decay of some portion of its tissue, and the formation of another to take its place. During our waking moments the formation of the new substance does not go on with the same rapidity as the decay of the old; repair cannot keep pace with the process of destruction—hence the necessity for sleep. The state of repose attendant upon this condition allows the balance to be restored, and hence the feeling of freshness

which attends, or should attend, our waking moments. The more active the mind the greater the necessity for sleep, just as with a steamer, the greater the number of revolutions its engines make the more imperative is the demand for fuel.

Most people require seven or eight hours' sleep out of the twenty-four, although many get on very well with only five or six. Students working for examinations often restrict themselves to four or five hours nightly for a few weeks, and then try and make up for it by passing nine or ten hours in bed for three or four weeks afterwards. No man can play such tricks with his health with impunity.

The necessity for sleep is sometimes so great that no effort of the will can resist it. Sentinels have been known to sleep on their posts, even in the face of the most imminent danger. Active bodily exertion will not always suffice to ward off sleep. Many men have been known to sleep on horseback during night marches. In some of our long walking matches against time, the pedestrian has been known to sleep at night, still keeping up his weary round. During the battle of the Nile many of the boys engaged in handing ammunition fell asleep, notwithstanding the noise and confusion of the action, and the fear of punishment. It is said, too, that on the retreat to Corunna whole battalions of infantry slept while in rapid march.

"Blessings," exclaimed Sancho, "on him that first invented sleep! It wraps a man all round like a cloak." The deprivation of sleep is one of the greatest punishments that can be inflicted. The following story, quoted on good authority, will serve to illustrate this fact:—"A Chinese merchant had been convicted of murdering his wife, and was sentenced to die by being deprived of sleep. This painful mode of death was carried into effect under the following circumstances: The condemned was placed in prison under the care of three of the police guard, who relieved each other every alternate hour, and who prevented the prisoner falling asleep night or day. He thus lived nineteen days without enjoying any sleep. At the commencement of the eighth day his sufferings were so intense that he implored the authorities to grant him the blessed opportunity of being strangled, guillotined, burned to death, drowned, garrotted, shot, quartered, blown up with gunpowder, or put to death in any conceivable way their humanity or ferocity could invent." This will give some idea of the horrors of death from want of sleep. Damiens, who attempted the assassination of Louis XV. of France, and who was sentenced to be torn to pieces by four horses, was for an hour and a half before his execution subjected to the most infamous tortures, with red-hot pincers, melted lead, burning sulphur, boiled oil, and other diabolical contrivances, yet he slept on the rack, and it was only by continually changing the mode of torture, so as to give a new sensation, that he was kept awake. He complained just before his death that the deprivation of sleep was the greatest of all his torments. Amongst the fearful iniquities of the "ordeal" and "torture," the system of Mersiglio was highly commended. This consisted in keeping the victim from sleep for forty hours; upon which practice it has been cynically remarked that a hundred martyrs exposed to it would become confessors to a man.

The immediate cause of sleep is believed to be a diminished supply of blood to the brain, and this will serve to explain the influence of many conditions in the production of sleep. Thus, for example, it has been shown that animals often fall

sound asleep on losing a large quantity of blood, a proportion being, of course, drawn from the brain. Most people have noticed the influence of heat—that of the fire, for example—in causing drowsiness, and eventually sleep, if sufficiently prolonged. During the prevalence of high temperatures the blood flows in increased proportion to the surface of the body, and consequently the quantity in the brain is diminished. A slight degree of cold excites wakefulness at first; but if the constitution be strong, the effect is to favour the production of sleep. This it does by reason of the determination of blood to the surface of the body which moderate cold induces in the vigorous. The ruddy complexion and the warm hands and feet produced in such persons under the action of this influence are well known. If, however, the cold be very intense, or the reduction of temperature sudden, the system even of the strongest fails to resist it, and then a very different series of phenomena result. Stupor, not sleep, is the consequence. The blood-vessels of the surface contract, and the blood accumulates in the internal organs, the brain among them. Many instances are on record showing the influence of extreme cold in the production of sleep, or rather stupor. One of the most striking is given in Captain Cook's "Voyages," in regard to an excursion undertaken by Sir Joseph Banks, Dr. Solander, and nine others, over the hills of Terra del Fuego. Dr. Solander, knowing from his experience in Northern Europe that the stupor produced by severe cold would terminate in death unless resisted, urged his companions to keep in motion when they began to feel drowsy. "Whoever *sits down*," said he, "*will sleep*, and whoever *sleeps* will *wake no more*." Thus, at once admonished and alarmed, they set forward; but they had not gone far before the cold became suddenly so intense as to produce the effects that had been most dreaded. Dr. Solander was the *first* who found the inclination against which he had warned others invincible, and he insisted on being suffered to lie down. Mr. Banks (as he was then) entreated and remonstrated with him in vain; down he lay upon the ground, although it was covered with snow, and it was with much difficulty that his friends kept him from sleeping. Richmond also, one of the black servants, began to linger in the same manner; when he was told that if he did not go on he would in a short time be frozen to death, his answer was that he desired nothing but to lie down and die. The Doctor said he was willing to go on, but that he must first take some sleep; although but a short time before he had told the company that to sleep was to perish. It was found impossible to carry them, and there being no remedy they were both at length suffered to lie down, being partly supported by some bushes, and in a few minutes they fell into a profound sleep. Soon after some of the people who had been sent forward returned with the welcome news that a fire was kindled about a quarter of a mile ahead. Mr. Banks then endeavoured to wake Dr. Solander, and happily succeeded; but though he had not slept five minutes, he had almost lost the use of his limbs, and the flesh was so shrunk that his shoes fell from his feet. He consented to go forward with such assistance as could be given him, but no attempts to relieve the servant were successful. He, together with another black left with him, died.

Another potent cause of sleep, and one of which we habitually avail ourselves, is diminution of attention. Shutting the eyes so as to exclude the light, getting beyond the sound of noises, refraining from the employment of the other senses, and

avoiding thought as much as possible, will do much to induce sleep. When we isolate ourselves from the external world, we lessen the amount of blood supplied to the brain, and in this way sleep results. It is not, however, always easy to do this. The nervous system is excited, ideas follow each other in rapid succession, and we lie awake for hours, vainly longing for happy oblivion. The more the will is brought to bear upon the subject, the more it rebels, and the less willing it appears to be forced into a state of quietude. In this case something may be done by endeavouring to tire out the brain. Many ways of accomplishing this object have been proposed and are employed by different people. The great point about them all is that they are tiring and monotonous. Counting a hundred many times, listening to the ticking of a clock, working sums, and thinking of some disagreeable or tiresome subject have all their advocates. Sometimes sleep may be induced by placing a brass pan—a sponge-bath will answer admirably—in such a position that water may fall into it drop by drop. Southey's experience, as related in "The Doctor," is well worth quoting, more particularly as he indicates several methods which may in some cases prove efficacious. "I put my arms out of bed," he says, "I turned the pillow for the sake of applying a cold surface to my cheek. I stretched my feet into the cold corner; I listened to the river and to the ticking of my watch; I thought of all sleepy sounds, and of all soporific things—the flow of water, the humming of bees, the motion of a boat, the waving of a field of corn, the nodding of a mandarin's head on the chimney-piece, a horse in a mill, the opera, Mr. Humdrum's 'Conversations,' Mr. Proser's 'Poems,' Mr. Laxative's 'Speeches,' Mr. Lengthy's 'Sermons.' I tried the device of my own childhood, and fancied that the bed rushed with me round and round. At length Morpheus reminded me of Dr. Torpedo's 'Divinity Lectures,' where the voice, the manner, the matter, even the very atmosphere and the stream of candlelight were all alike somnific; where he who, by strong effort, lifted up his head and forced open the reluctant eyes, never failed to see all around him asleep. Lettuces, cowslip wine, poppy syrup, mandragora, hop pillows, spider's-web pills, and the whole tribe of narcotics, up to the bang and the black drop would have failed; but this was irresistible, and thus, twenty years after date, I found benefit from having attended the course."

Digestion favours the production of sleep, by inducing a flow of blood to the stomach, so that the brain is left in a state of anæmia, or bloodlessness. Some people always feel sleepy after a meal, although they may have partaken of food in the strictest moderation. As a rule, persons who eat largely, and have good digestive powers, sleep a great deal, and there are many who cannot sleep at all at night unless they have partaken of a hearty supper.

Debility is almost always accompanied by a disposition to inordinate sleep. People who are out of condition nearly always feel drowsy and heavy, and disinclined for active mental exertion. The fact is, the brain is one of the first organs to feel the effects of a diminished amount of blood, or deterioration in quality, and hence in old age, or under the influence of a deficient quantity of food, or through the action of some exhausting disease, more sleep is usually taken than when the physical health is in its normal condition.

The approach of sleep is characterised by a languor which is agreeable when it can be yielded to, but which, when circumstances prevent this, is far from being pleasant. It is a delicious moment, certainly, that of being well nestled in bed, and feeling that you will soon drop gently to sleep. Many people however, and children especially, are rendered irritable and ill-tempered when they get sleepy. In the majority of cases the senses lose their activity in a certain definite organ. The sight is, of course, the first to be lost, the closure of the eyeballs interposing a physical obstruction to the entrance of light. Even when the eyelids have been removed, or from disease cannot be closed, the sight is still the first of the special senses to be abolished. Moreover, in those animals, the hare for example, which do not shut their eyes during sleep, the ability to see disappears before the action of the other senses is suspended. The taste is the next to fade, and then the smell; hearing follows, and sensation yields last of all, and is the most readily re-excited. Practically, we know that it is much easier to awake a man by shaking him than by shouting at him.

Although during sleep the operations of the senses are entirely suspended as regards the effect of ordinary impressions, the purely animal functions of the body continue in action. The heart beats, the lungs respire, the stomach digests, the skin exhales vapour, and the kidneys secrete urine. With the brain, however, the case is somewhat different, for while some parts retain the property of receiving impressions or developing ideas, others have their actions diminished, exalted, perverted, or altogether arrested. Relative to the different faculties of the mind as affected by sleep, great variations are observed. It has been supposed that several of them are exalted above the standard attained during wakefulness. Many remarkable stories are related, showing the high degree of activity possessed by the mind during sleep. Thus, it is related of Tartini, a celebrated musician of the eighteenth century, that one night he dreamt that he had made a compact with the devil, and bound him to his service. In order to ascertain the musical abilities of his subordinate, he gave him his violin, and commanded him to play a solo. The devil did so, and performed so admirably that Tartini awoke with the excitement produced, and seizing his violin endeavoured to repeat the enchanting air. Although he was unable to do this with entire success, his efforts were so far effectual that he composed one of the most admired of his pieces, which, in recognition of its source, he called the "devil's sonata." A somewhat similar anecdote has been preserved in a family of rank in Scotland, the descendants of a distinguished lawyer of the last century. This eminent person had been consulted respecting a case of great importance and much difficulty, and he had been studying it with intense anxiety and attention. After several days had been occupied in this manner, he was observed by his wife to rise from his bed in the night and go to a writing-desk which stood in the bedroom. He then sat down and wrote a long letter, which he put carefully by in the desk, and returned to bed. The following morning he told his wife that he had dreamed a most interesting dream; that he had dreamt of delivering a clear and luminous opinion respecting a case which had perplexed him, and that he would give anything to recover the train of thought which had passed before him in his dream. She then directed him to the writing-desk, where he found the opinion clearly and fully written out, and it

afterwards proved to be perfectly correct. The weak point in this case is that there is no evidence to show that the gentleman in question was really asleep when he wrote his opinion. Circumstances that actually occur during the night are often mistaken for dreams. A gentleman on getting up one morning fancied that he had dreamed of a fire occurring in the vicinity of his house ; he mentioned the circumstance to his wife, and to his surprise she informed him that the supposed dream was a reality, and that he had got up to the window, looked at the fire, talked with her about it, and that in fact he was at the time fully awake.

It sometimes happens that circumstances long forgotten are recalled in our dreams. A gentleman who had learnt Greek in his youth, but had subsequently completely forgotten it, could in his dreams read the Greek works he had been accustomed to use at college, and had a most vivid impression of fully understanding them. It is related, too, of the Countess de Laval, a woman of perfect veracity and good sense, that when ill she spoke during sleep a language which no one could understand. At last an old nurse detected the dialect of Brittany ; her mistress had spent her childhood in that province, but had lost all recollection of the Breton tongue, and could not understand a word of what she had said in her dreams when it was repeated to her. Her utterances applied, moreover, exclusively to the experiences of childhood, and were infantile in structure. Nothing can be more remarkable than those cases in which a dream has served to reveal the hiding-place of some long-lost document or family record. In many instances the circumstances are well authenticated, and there can be no doubt as to their correctness. The facts have been known and then completely forgotten, and have finally been recalled to memory during sleep, or possibly at the moment of awaking.

Most people dream more or less, but, curiously enough, some never do so under any circumstances, or rather, perhaps we should say that on awaking they have no recollection of having done so. Even the ancient writers were aware of this fact, and Pliny refers to men who never dreamed. Plutarch alludes to the case of Cleon, who, although he lived to an advanced age, had never dreamed. Yet, in spite of this, the great majority of writers hold the view that the brain is never at rest. Sir William Hamilton caused himself to be aroused from sleep at intervals throughout the night, and invariably found that he was disturbed from a dream, the particulars of which he could always distinctly recollect. It is probable that we originate nothing in our dreams. We may imagine things which never really existed, or of which we have heard or read, but the images we make of them are either composed of elements familiar to us, or are based upon ideal representations which we have formed in our waking moments. For example, before the discovery of America, no European ever dreamt of American Indians, simply because nothing existed within his experience which could have afforded any idea of the appearance of such people. Columbus and his followers may have dreamt of the continent of which they were in search and of its inhabitants, but the images formed of the latter must necessarily have resembled other beings they had seen or had heard described. After the discovery, however, every one dreamt of Indians as a matter of course, just as we do now even, although we may have no personal experience of the denizens of the far West. Dreams always have some foundation, and in the great

majority of cases are excited by the events of the previous day. It is related of a tyrant of old that one of his courtiers once related to him a dream that he had had, in which he had assassinated his master. "You could not," exclaimed the tyrant, "have dreamed this without having previously thought of it," and then ordered his immediate execution. Sometimes dreams are the result of the external conditions under which the sleeper is placed. Thus many people whilst suffering the pangs of hunger have dreamt of gorgeous banquets and of tables loaded with the most appetising viands. We are told of an officer in the army whose companions were in the habit of amusing themselves at his expense. They had discovered accidentally that they could produce in him any kind of dream simply by whispering in his ear. Once they conducted him through the whole process of a quarrel which ended in a duel, and when the parties were supposed to have met a pistol was put in his hand, which he fired, and was awakened by the report. On another occasion they made him, when asleep, believe that he was in an engagement, when he exhibited great fear and showed a decided disposition to run away. Against this they remonstrated, but at the same time increased his fears by imitating the groans of the wounded and dying. When he asked, as he often did, who was hit, they named his particular friends. At last they told him that the man next to him in his company had fallen, when he instantly sprang from his bed, rushed out of the tent, and was aroused from his dream, and rescued from his supposed danger, by falling over the tent-cords.

Sleeplessness is very frequently the accompaniment of some disease or disorder, and is to be regarded as one of the symptoms characterising it, which will disappear under treatment directed to the original malady. But not unfrequently want of sleep occurs as a purely functional disorder. When night after night a person lies awake for hours, either failing to sleep, or getting it only by fits and starts, serious results are sure to follow. Inability to sleep is one of the most constant precursors and accompaniments of brain exhaustion and general decay, and when long persistent may result in insanity. It is probable that no one cause is so productive of mental degeneration as constant wakefulness, for not only is the brain prevented from obtaining rest, but it is kept in a state of continual tension which, if not relieved, must sooner or later lay the foundation of grave organic disease.

A very common cause of wakefulness is over mental exertion. An author, for example, strains every nerve to finish his book by a certain date, sitting up night after night, disregarding the calls of nature and the dictates of common sense. At last his task is completed, and then when he tries to rest he finds he cannot sleep. It may be long before the health recovers from the excessive strain it has undergone. It is a matter of every-day experience that the body and mind may become so weary that it is impossible to sleep—over-tired as we call it. Sleeplessness sometimes arises from derangement of the liver. When this is the case the patient is often heavy and drowsy after a full meal, and he may fall asleep at once on retiring to rest, but after one, two, three, or four hours he awakes, and then he either lies awake for hours or is constantly falling asleep, dreaming or having the nightmare and awaking—four or five times, or even oftener, in the course of an hour—until the morning comes, when he drops into a quiet sleep of an hour or more, and gets up

tired and irritable. This particular form of sleeplessness is often induced by certain articles of diet, or by some injudicious combination of them. An indiscretion that will excite headache, giddiness, or palpitation in one, causes sleeplessness in another. In these cases the rational treatment is obviously that of biliousness. A blue-pill or two will often do more to effect a cure than a whole arsenal of opiates or soporifics.

Very often sleeplessness arises from the stomach, rather than from the liver. This may be the case when there are no other obvious symptoms of indigestion; the appetite may be good, and there may be no pain, flatulence, or other discomfort after meals. This form of sleeplessness has long been recognised. Thus an old writer says, "Persons who labour under a weakness of the stomach, as I have for a great number of years past, know that certain foods, without their being conscious of it, prevent sleeping. So I have been awakened a hundred times at two o'clock in the morning, when I did not feel any particular impression in the stomach, but I knew that I had been awaked by an irregular operation of that organ, and I have then recollected what I took at dinner, which was the cause of it." In these forms of sleeplessness harm is often done by the administration of opiates. Very often relief may be obtained by careful attention to diet, and particularly by strict moderation in the use of wine or beer. In many cases a dose of carbonate of potash or carbonate of soda on going to bed, or on first awaking in the morning, is of service. Many people who suffer from this form of sleeplessness never do so well as after a dose of calomel, or a blue-pill.

There are many other circumstances which have a tendency to produce sleeplessness. Smoking strong tobacco late at night, especially after errors of diet, is by no means an unfrequent cause. Strong odours, as of flowers, perfumes, or even embrocations, may act in the same way. Excessive exercise as in dancing, mental excitement, as in late entertainments, in amusements, or in music, may be mentioned. Care, trouble, sorrow, mental anxiety, are all enemies to sleep. Children are not unfrequently prevented from sleeping by bad dreams, too often excited by the tales or threats of ignorant or injudicious nurses. The practice of taking "forty winks" after dinner, though not in itself objectionable, if the authorised number be not exceeded by undue indulgence, may forestall the night's rest and make it difficult to get off to sleep. Often enough the most relishing snatch of slumber out of bed is the one which a tired person takes before he retires for the night, while lingering in his sitting-room. The consciousness of being very sleepy, and of having the power to go to bed immediately, gives great zest to the unwillingness to move. Some people, it is to be feared, go to bed with a fixed idea that they cannot sleep, and they dwell on that idea, and consequently do not sleep. And, lastly, women of a nervous, excitable temperament are often annoyed by an inability to obtain sound repose during pregnancy, or they may suffer from complete insomnia after delivery.

We will now consider the best mode of curing sleeplessness, and we wish to state, in the first place, that the practice of resorting to a narcotic on every trivial occasion is as bad as bad can be. There is a great deal to be done before we can even think of taking medicine. To begin with, it is necessary to try and find out

the exciting cause of the wakefulness, and then to remove it if possible. If a man is over-working himself it is of not the slightest use giving him drugs to make him sleep, unless he will consent to go under easy sail for a time. That would be the abuse of medicine, not its use. Much may be done by measures which tend to improve the general health, and these are chiefly of a hygienic character. Is the room in which the patient sleeps all that it should be? Is it large and airy and, at all events, moderately well ventilated? If not, this must be remedied without delay. Has the patient a fair allowance of bed-clothes? Possibly he would be benefited by having a fire in his room at night, or a hot-water bottle to his feet. Is he regular in his habits? He should go to bed every night at the same hour, and get up at the same time in the morning. A man who is irregular, and goes to bed one night at ten, and the next not till two or three in the morning, cannot expect to sleep well, and he certainly does not deserve to. Many people pass far too many hours in bed—seven or eight is enough for any man. We know people who are never satisfied, and are always complaining because they cannot sleep twelve hours at a stretch. To be able to do so would be no indication of health, but rather the contrary. Many a man has been cured of his inability to sleep by taking a warm bath the last thing before going to bed. Often enough there is some error in diet which requires to be looked to. Many people find they cannot sleep if they go to bed on an empty stomach. With many, a hearty supper of plainly-cooked and nutritious food rather favours sleep than otherwise. Of course, indigestible substances, such as cheese or pastry, should be avoided. A glass of good bottled stout is by no means a bad provocative of sleep. A plain biscuit after lying awake for some time will often bring relief. Some people sleep best when propped up in bed, and others when lying quite flat on their backs. A low pillow, a hard pillow, or a hop pillow may conduce to sleep. If the air of the bedroom be dry, and there is a sense of stifling or stuffiness, it is a good plan to have the floor freely sprinkled with water containing a little Condyl's fluid; or if warmth as well as moisture be desired, the steam may be allowed to escape into the room from a kettle on the hob.

Walking, riding, or driving in the open air, change of society, of scene, of air (provided only that it be pure and bracing) may prove remedial. A good walk two hours before bed-time is beneficial in many cases. Reading exciting works of fiction late in the evening is to be prohibited, and everything possible should be done to prevent the normal functions of the brain from being over-excited during the day. Sometimes advantage is derived from getting rid of curtains and bed-hangings. The practice of keeping the bedroom window open all night is a good one. We are told that Bacon used to indulge in a posset of strong ale to subdue the activity of his brain before going to bed; and in imitation of his practice we sometimes recommend in cases of debility that a tumblerful of port wine negus, or of mulled claret, or of hot elder wine, or of white wine whey, should be taken the last thing. In other instances, where the skin is hot and dry, a glass of cold water may be useful. Should the bowels be habitually constipated, this must be seen to (*see* CONSTIPATION). If there be headache, a rag dipped in cold water and applied to the forehead may give relief. Attempts may be made to get into "the land of Nod" while comfortably seated in an easy chair.

We have already had occasion to refer to the influence of monotonous sounds in producing sleep. Soothing sounds will lull adults as well as children. Brushing the hair, friction of the skin, rubbing the palms of the hands or the backs of the arms, will have a quieting influence on some persons. In exceptional cases sleep may sometimes be conciliated by the monotonous biddings of mesmerism, when drugs might fail to procure it, and such sleep may become in certain diseases a mode and an instrument of cure. What has been called "hypnotism" may occasionally have its uses. The following extract from a paper on the subject will explain the *modus operandi*.—"My usual mode of inducing sleep," says the writer, "is to hold any small bright object about ten or twelve inches above the middle of the forehead, so as to require a slight exertion of the attention to enable the patient to maintain a steady, fixed gaze on the object; the subject being either comfortably seated or standing, stillness being enjoined, and the patient requested to engage his attention, as much as possible, on the single act of looking at the object, and yield to the tendency to sleep which will steal over him during this apparently simple process. I generally use my lancet-case, held between the thumb and first two fingers of the left hand; but any other small bright object will answer the purpose. In the course of about three or four minutes, if the eyelids do not close of themselves, the first two fingers of the right hand, extended and a little separated, may be quickly, or with a tremulous motion, carried towards the eyes, so as to cause the patient involuntarily to close the eyelids, which, if he is highly susceptible, will either remain rigidly closed or assume a vibratory motion—the eyes being turned up, with, in the latter case, a little of the white of the eye visible through the partially-closed eyelids. If the patient is not highly susceptible, he will open his eyes, in which case request him to gaze at the object, &c., as at first; and if they do not remain closed after a second time, desire him to allow them to remain shut after you have closed them; and then endeavour to fix his attention on muscular effort, by elevating the arms if standing, or both arms and legs if seated, which must be done quietly, as if you wished to suggest the idea of muscular action without breaking the abstraction, or concentrative state of mind, the induction of which is the real origin and essence of all that follows."

One of the best remedies for sleeplessness is bromide of potassium. It has been found of especial use in obviating that sleeplessness and wandering at night not unfrequently occurring during convalescence from acute diseases. In sleeplessness from other causes, as worry, over-work, grief, or indigestion, it may be employed with every expectation of success. It is especially indicated if besides sleeplessness the patient, although of abstemious habit, suffers from delirium resembling that of delirium tremens. In the sleeplessness of delirium tremens itself the bromide is of conspicuous benefit. It is to be given in a single dose of twenty grains at bed-time or three table-spoonfuls of the mixture (Pr. 31).

Chloral is another valuable remedy for the relief of sleeplessness. It should be given shortly before bed-time, and the patient should avoid excitement, and keep quite quiet, or it will produce restlessness instead of sleep. It is very efficacious in subduing the sleeplessness of old people, and the wakefulness induced by excessive mental fatigue. The dose is a tea-spoonful of the syrup of chloral. There is not the slightest

objection to giving it in combination with bromide of potassium, and for an adult a very good combination is two table-spoonfuls of the bromide of potassium mixture (Pr. 31) with a tea-spoonful of syrup of chloral.

The sedative draught (Pr. 37) may be used.

As we all know, opium is a remedy frequently employed for the production of sleep, but it is a drug that must be employed with the greatest caution. Many a man has entered upon his last long sleep through the injudicious administration of a dose of laudanum. Never give a sleeping-draught containing opium to any one with extensive lung disease or with disease of the kidneys. Chronic sleeplessness, independent of any notable disease, should not be treated with opium if it is possible to avoid it. As a rule, bromide of potassium and chloral are much safer and better agents than laudanum. Still, when sleeplessness is caused by severe pain, or our other remedies have failed, we may be glad to resort to an opiate. When opium is given to produce sleep, attention must be paid to the time of its administration. It should be given at the usual time for sleep, or when the patient feels inclined to dose, so that it may aid Nature, herself striving to induce the same result; small doses are then as effectual as larger given at a less seasonable time. As a rule, a dose of opium requires about two hours to produce its effects. It is conveniently given in the form of laudanum, twenty drops in a wine-glassful of water. Sometimes a morphia suppository succeeds better than when the drug is given by mouth. These suppositories are little cones of wax about half an inch long, containing a dose of morphia. When pushed up the back passage they dissolve with the heat of the body, and the effects of the drug are produced. The morphia suppository is a pharmacopœial preparation, and they may be obtained from any chemist. Only one is to be used at a time. The hypodermic injection of morphia must not be forgotten, although it is not a mode of treatment that we are justified in resorting to without absolute necessity.

Chlorodyne may often be given with advantage.

Coffee is an admirable remedy for some forms of sleeplessness. A spoonful or two of very strong coffee without sugar or milk will speedily subdue the sleeplessness arising from agitation of mind or body, or from extreme anxiety or mental labour. The wakefulness of children and of old people is especially under its control.

A small tea-spoonful of spirits of ether or spirits of chloroform, in a wine-glassful of water at bed-time, will often induce sleep. The peevish sleeplessness of children is often removed by tea-spoonful doses of infusion of chamomile. When restlessness depends on indigestion, errors of diet, excesses of any kind, or on constipation, nux vomica may do good. Five drops may be taken in a wine-glassful of water three or four times a day.

SMALL-POX.

Small-pox, technically known as Variola, is a most infectious disease, and the contagion can be conveyed to considerable distances. The poison clings tenaciously to clothes and other articles, especially to those of rough texture, and retains its vitality for a long period, so that it is unwise to go into a room that has been occupied by a small-pox patient until it has been thoroughly disinfected.

Small-pox may occur at any age. Its period of incubation is twelve days, so that after contact with a small-pox patient one is not positively safe for that time.

It usually commences suddenly with chills, or rigors, followed by all the symptoms of severe fever. The temperature may rise to 104° or more before the eruption appears. An early symptom is pain in the back, so that sometimes the patient thinks he has lumbago. Not unfrequently the pains are general, and always there is a considerable degree of prostration. The eruption appears as a rule on the third or fourth day, and is almost invariably first noticed about the forehead. It usually lasts about eight days. The temperature falls on the appearance of the rash, but rises again as the spots mature. Occasionally a red rash precedes the true small-pox eruption, giving rise to the idea of scarlatina. We know of no cure for small-pox, and the disease must be allowed to run its course. Vaccination, so valuable as a preventive, is of no avail when once the symptoms have actually appeared. What vaccination will do is this:—If an unvaccinated person be exposed to small-pox on Monday, he will be safe if vaccinated on or before the following Wednesday; if it be postponed till the Thursday, the small-pox rash will appear, but will be modified; if delayed till Friday, it will be useless. Re-vaccination will have effect two days later than will vaccination that is performed for the first time. As soon as small-pox breaks out, the doctor must be sent for. The patient must be isolated, and only those allowed to see him who have been well vaccinated. He must be kept in bed, which should be placed in an airy room, well ventilated, and of a uniform and medium temperature—about 60° Fahr. His diet should at first consist of milk, beef-tea, mutton broth, gruel, rice water, white of egg and water flavoured with lemon-juice, tea and toast, bread and milk, &c. Later on, Brand's Essence of Beef will be found useful. When thirsty he may have iced milk, toast and water, lemon and water, lemonade, soda-water, or imperial drink. Great care should be taken to keep him clean, and the hands and face should be frequently sponged with tepid water, especial attention being paid to the eyes. If the throat is sore, a little black-currant jelly will give relief. Should the bowels be confined, a simple aperient will be necessary.

To prevent pitting, wait till the spots have discharged and the discharge has begun to dry, then put on some of the best olive oil, or a mixture of one-third glycerine and two-thirds rose-water; this may be applied once or twice a day until the scabs begin to loosen. Cold cream and a mixture of olive oil and lime-water are also good applications. Sometimes the pits are hardly seen at first, but become more apparent afterwards. The articles on Chicken Pox (p. 4) and Vaccination (p. 63) may be consulted.

SOMNAMBULISM AND SLEEP-WALKING.

The phenomena exhibited by a person in the condition of somnambulism are so wonderful that they have from the earliest times excited the superstitious feelings of the ignorant, and claimed the most serious attention of the learned. To see an individual apparently asleep, and yet capable of performing the most intricate action without the aid of the senses, is so diametrically opposed to our ordinary experience

as to excite feelings of astonishment almost amounting to awe. That somnambulism is not merely a partial awakening, is shown by the difficulty always experienced in arousing the individual, and by the bewilderment and slow return of consciousness by which it is followed. Moreover, decided somnambulists are entirely ignorant of all that has occurred during their strange sleep, whereas dreams during a partial waking are always remembered, more or less.

Somnambulism is to some extent hereditary, though not markedly so, and it is most likely to occur in families in which there is a proclivity to affections of the nervous system. Young people are more subject to it than those of mature age; in fact, there are few children who do not exhibit at some time or other manifestations of the condition in question, such as muttering and talking in their sleep, laughing, crying, or getting out of bed. The sexes are equally subject to it, although in adult life it more rarely attacks men than women. The immediate cause of an access is commonly some indiscretion in diet, as, for example, a late or unusually heavy supper. Mental emotion, excessive intellectual exertion, violent grief, and other similar disturbing causes, are not unfrequently assigned as exciters of an outbreak in those in whom they are of occasional occurrence. Somnambulism is a serious complaint, not only from the awkward and even dangerous positions in which it places the patient when deprived of his senses, but also for the constant and wearying anxiety which it occasions his friends. How frequently we see in the papers the heading "Death of a Somnambulist." At the same time, it is by no means inconsistent with a fair condition of general health, and it is not uncommon amongst boys and girls at school, who, bodily and mentally, are quite equal to their companions.

It is really marvellous what strange acts are occasionally performed during a condition of somnambulism. We are told, for instance, of a young ecclesiastic who during sleep frequently wrote sermons, and even composed music. The music was written with great exactitude. A cane served him for a ruler—the clef, the flats, and the sharps were all in their right places. All the notes were first made as circles, and then those requiring it were blackened with ink. The words were written below. One night, in the middle of winter, this young man during the somnambulist condition imagined that when walking on the bank of a river he saw a child fall in. The severity of the weather did not prevent him from determining to save it. He threw himself on the bed in the posture of a man swimming, went through all the motions, and after becoming well fatigued with the severity of the exercise, felt a bundle of the bed-clothes, which he took to be the drowning child. He seized it with one hand, while he continued to swim with the other, in order to gain the bank of the imaginary river. Finally, he placed the bundle in a place which he evidently considered to be dry land, and rose, shivering, with his teeth chattering as though he had emerged from icy water. He remarked to those present that he was frozen, that he would die of cold, and that his blood was like ice. He then asked for a glass of brandy, in order to restore his vitality, but there being none at hand, a glass of water was given him instead. He, however, detected the difference, and asked peremptorily for brandy, calling attention to the great danger he incurred from the cold. Some brandy was finally obtained. He drank it with

much satisfaction, and remarked that he felt much better. Nevertheless he did not awake, and returning to bed, slept tranquilly the rest of the night.

Another case is recorded of a young man, a servant, who rose every night in his sleep, descended to the cellar, drew some wine from a cask, and drank it. Frequently he went out into the streets, and sometimes even wandered into the country.

A gentleman of very nervous temperament on one occasion dreamt that his place of business was on fire. He got up in his sleep, dressed himself, and walked a distance of over a mile to his office. He was aroused by being stopped by the private watchman, who was at first under the impression that he had caught a burglar.

In relation to the activity of the senses during somnambulism there is great diversity of opinion among those who have studied the affection. This is doubtless due to the fact that somnambulists differ as regards the use they make of their senses, some availing themselves of the aid they can derive from these sources, whilst others do not appear to employ them at all. Let us take an example or two. One night a student was found, in the somnambulant condition, translating a passage from Italian into French, and looking out the words in the dictionary. Now, in this case, one would suppose that he was using the sense of sight, and yet undoubtedly sleep-walkers do wonderful things without the aid of their eyes, and in many instances they are known to have acted as though they saw in a room which was perfectly dark. Thus a lady during her sleep was seen by her husband to go into a dark closet adjoining their bedroom, open a trunk, and begin to arrange the contents. It contained clothing of various kinds, which had been put into it the day before without being sorted. She classified all the articles, such as stockings, handkerchiefs, shirts, &c., without making a single mistake, and without the possibility of being assisted by light sufficient for ordinary eyesight. Another case is recorded of a young lady who was accustomed to rise from her bed in a state of somnambulism, and to write in complete darkness. A remarkable feature was that if the least light, even that of the moon, entered the room, she was unable to write. She could do so only in the most perfect obscurity.

It has been maintained that somnambulism is a condition closely allied to reverie or absence of mind. When we are strongly pre-occupied with any subject, the objects around us make no impression on our senses or on our mind. Archimedes, while meditating on a discovery, was an entire stranger to all that was going on around him. On one occasion whilst so engaged, Syracuse was taken by the enemy, but he was not diverted from his thought either by the chant of victory of the conqueror, or by the cries and groans of the wounded and dying. A person intently engaged in reading will often answer questions without suffering his train of thought to be interrupted. When he has ceased his study, he is surprised when told that he has been conversing. When we are walking in the street and thinking of some engrossing circumstance, we turn the right corners, and find ourselves where we intended to go without being able to recall any events connected with the act of getting there. During a state of reverie the mind pursues a train of reasoning often of the most fanciful character, but still so abstract and intense, that though actions may be performed by the body, they have no relation with the current of thought,

but are essentially automatic. Thus a person in this condition will answer questions, obey commands involving a good deal of muscular exercise, and perform other complex actions without disturbing the connection of his ideas. When the state of mental pre-occupation has disappeared, there may be no recollection of the acts that have been performed. In the case of a person playing the piano and at the same time carrying on a conversation we have a striking illustration of the simultaneous performance of a mental and an automatic act. The mind is engaged with ideas, and the spinal cord directs the manipulations necessary to the proper rendering of the musical composition. A person who is not proficient in the use of the instrument cannot at the same time play and converse with ease, because the spinal cord has not acquired a sufficient degree of automatism, and the mind cannot be divided in its action. Darwin has recorded a striking example of the independent action of the brain and the spinal cord. A young lady was playing on the piano a very difficult musical composition, which she performed with great skill and care, though she was observed to be agitated and pre-occupied. When she had finished she burst into tears. She had been intently watching the death-struggles of a favourite bird. Though her brain was thus absorbed, the spinal cord had not been diverted from the office of carrying on the muscular and automatic actions required for her musical performance.

Occasionally the attacks of somnambulism have been so long and so frequent, that there is as much of a sleeping as there is of a waking state, and thus has arisen the singular phenomenon known as "double consciousness." Trains of thought are carried on from one attack to the next, though in the normal interval the mind is quite unconscious of them. In a remarkable instance of this kind, the patient, a servant girl, began by being subject to attacks of extreme sleepiness; next, in these sleeps she began to be talkative. Soon there appeared to be some method in what she said; she personated an episcopal clergyman, went through the baptismal service for three children, and delivered an extempore prayer. Another time she thought she was a jockey at Epsom, and rode round the kitchen on a stool. On awaking these pranks were forgotten, although in succeeding fits she remembered all that had occurred. Thus one night one of her fellow-servants was rude to her when somnambulistic. The next day the insult was forgotten, but shortly afterwards she had another attack, and told her mother about it. It is stated that education may be carried on, and even languages acquired, during somnambulism, but this is very doubtful.

The subjects of somnambulism not unfrequently suffer in addition from nightmare. In nightmare there are generally apparitions, horrible or ludicrous, with always a distinct consciousness of inability to move. It may arise from the presence of indigestible food in the stomach, or from wind, or acidity. The suffering usually commences with a disagreeable vision, and the sleeper attempts to escape from some imaginary danger. Then he experiences a sense of suffocation, which increases until there is an imperfect consciousness that he is in bed. But still there continues the tormenting oppression from the weight on the chest, which keeps him lying on his back. The oppressed breathing becomes more and still more painful; palpitation of the heart sets in, attempts are made to move the arms, but it is found

impossible to do so, and the countenance assumes a ghastly expression, with the eyes half open. In a minute or two the power of movement returns, the patient by a mighty effort succeeds in rousing himself, fearing each moment lest the horrible paroxysm should recur.

Morbid dreams are not unfrequently among the premonitory symptoms of insanity, and should be regarded as an indication, either that the digestive organs are not performing their functions properly, or that the patient is over-taxing his strength bodily or mentally, or perhaps both. Many cases of insanity preceded by terrifying dreams have been recorded. In one a lady dreamed that she had committed murder under circumstances of great atrocity. She cut up the dead body, but could not with all her efforts divide the head, which resisted her blows with an axe and other instruments. Finally she filled the nose, eyes, and mouth with gunpowder, and applied a match. Instead of exploding, smoke issued slowly from the orifices of the skull, and was resolved into a human form, which finally assumed the shape of a police officer sent to arrest her. She was imprisoned, tried, and sentenced to execution by being drowned in a lake of melted sulphur. While the preparations were being made for the punishment she awoke. This dream was repeated on several subsequent nights, and finally it made such an impression on her mind, that she had to be placed under restraint.

We must now turn our attention to the measures that may be taken for the cure of somnambulism, and the allied conditions to which we have had occasion to refer. To begin with, it is essential that the patient should be removed from the society of those who would be disposed, thoughtlessly perhaps, to foster into a habit the recently-established disease. This of course applies chiefly to the case of boys and girls at school. Then the patient must be prevented from falling into that morbidly deep sleep in which the phenomena we have described are usually produced. He should never be allowed to indulge in what has been called the "intoxication of repose." This is best accomplished by waking him up once or twice in the night, before he has had time to walk or talk or perform other unseemly acts. In the case of adults, this may be accomplished by an alarm, which may be purchased for a few shillings. This simple precaution will often succeed in effecting a cure. Should the patient always or usually become somnambulist at a certain hour, the alarm should awake him a little before that time. People have sometimes cured themselves by tying their wrists to the bed-post before going to sleep. Care should be taken to lie with the head high, and the body should not be covered with too great a weight of bed-clothes. When the health is below par it should be seen to at once, or treatment will prove of little avail. Constipation should be remedied without delay. Plenty of exercise should be taken in the open air, and the hours of sleep may be advantageously limited to six or seven—that is, for an adult. The bedroom should, if possible, be large and airy, but at all events the windows should be left open all night for a good inch at the top, winter and summer. Heavy suppers must be avoided, and malt liquors are to be taken with caution. The best supper for a somnambulist is a glass of milk and a piece of dry bread or a biscuit. He should sleep on a hard mattress in preference to a feather bed. The specific medicine for these cases is bromide of potassium—two or three table-spoonfuls of the mixture

(Pr. 31) every night. Should this fail to afford relief in a fortnight, five grains of bromide of ammonium should be added to each dose. The bromide of potassium is of essential service in the case of the somnambulism of young children. The child usually gets out of bed while fast asleep, walks about the house, and performs, as if awake, various acts quite unconsciously. The state is not accompanied by any terror, although in some cases there is squinting. In these cases, from half a table-spoonful to a table-spoonful of the bromide of potassium mixture will prevent the screaming and remove the squinting. The affection in children being almost always connected with deranged digestion, the condition of the stomach and bowels should be attended to, but even in spite of these derangements the bromide will give quiet and refreshing sleep.

For nightmare the treatment is practically identical with that of somnambulism, and the bromide of potassium may be employed with every confidence. In cases where the attacks are obviously due to acidity, a dose of bicarbonate of potash or bicarbonate of soda in water, taken either at bed-time or in the middle of the night, will often afford relief. Many people sleep with a reel tied round their loins, and this, probably by preventing them from lying on the back, not unfrequently succeeds in warding off attacks. This device is often resorted to in spermatorrhœa with success.

SORE THROAT (CLERGYMAN'S).

This is a form of sore throat which merits our best attention. It arises partly from the straining of the voice in public speaking, and partly from the inspiration of cold and dusty air through the nose and mouth during the act. It is not by any means confined to clergymen, for barristers, actors, and singers are frequent sufferers. It is not unfrequently met with in medical men, especially in those who hold hospital appointments, and have much lecturing or teaching to do. There is another public speaker who is frequently a sufferer, and that is the costermonger; indeed, a few years ago it was irreverently proposed to change the name of the complaint, and call it "costermonger's sore throat." Photographers and others who are much exposed to the fumes of acrid chemicals in confined chambers often suffer from a very similar condition.

This form of sore throat is frequently in its earlier stages a purely nervous affection, being unattended with any organic change. Subsequently, however, it gives rise to congestion, inflammation or relaxation of the mucous membrane of the throat, together with elongation of the uvula, and chronic enlargement of the tonsils.

The symptoms consist principally of an uneasy sensation in the upper part of the throat, with constant inclination to swallow, as if there were some obstruction which could be removed by that act. Frequently attempts are made to clear the throat by coughing and hawking, and the patient is always going "*hem!*" in a manner which is as distressing to himself as it is annoying to others. At the same time the voice undergoes an alteration, there being loss of power and hoarseness, and sometimes even complete aphonia (loss of voice) towards evening. Many of the symptoms are worse in the morning, probably from the mouth becoming dry during sleep, and

they are nearly always worse after an unusual exertion of the voice, as, for example, in the case of ecclesiastics on Sundays. The elongated uvula frequently gives rise to a tickling in the throat or to the sensation of the presence of a foreign body, especially on bending the head backwards and on lying down. The sleep is frequently disturbed from this cause.

Our remarks on the treatment of relaxed sore throat are in a great measure applicable to this complaint. If taken early, comparatively little difficulty will be found in effecting a cure. In its early stages the treatment should consist chiefly in the use of tonics, especially iron and quinine, the cold plunge or shower bath, or sea-bathing and temporary change of scene and occupation. Two or three glasses of port wine daily will prove of use. This, however, will not always effect a cure. In more chronic and obstinate cases, iodide of potassium (Pr. 32), or bromide of potassium (Pr. 31), or bromide of ammonium may be tried. It should be borne in mind that iodide of potassium is a somewhat lowering and depressing drug, and we should not advise its continuance for more than ten days unless distinct benefit is perceived. Belladonna (Pr. 39) is often used with advantage, particularly when the throat is ulcerated and of a bright red colour, and there is pain on swallowing. A tincture of pokeweed (*Phytolacca decandra*) has been highly recommended. The indications for its use are hoarseness, or loss of voice, with great dryness and a feeling as of a lump in the throat. It should be taken in three-drop doses, in a little water every three hours. It may also be used as an inhalation, or as a gargle, the strength being twenty-five drops of the tincture to a quarter of a pint of water. Wyeth's Chlorate of Potash Tablets are useful.

The glycerine of tannin, of which we have already had occasion to speak so highly (p. 468), is the application on which we should place most reliance. Any of the inhalations, the formulæ for which we have given (p. 469 and Prs. 104, 105, and 106), may be tried with a fair prospect of success. Benzoic acid lozenges (Pr. 107) often act beneficially. A cold wet compress applied to the throat every night at bed-time frequently proves a very effectual remedy.

There are certain accessory modes of treatment to which it is of the greatest importance to pay attention. In the first place the inflamed organ must have rest. In the case of an inflamed knee-joint, the necessity for rest is at once acknowledged, and no time is lost in devising means with this object; but in the case of an inflamed throat or larynx, it is usually the last thing thought of. Any one suffering from clergyman's sore throat should be extremely careful not to exert the damaged organ in any way. Even ordinary conversation should be carried on in an undertone, and should not be prolonged.

There is another point which is very commonly neglected. Every working man requires one day's rest in the seven. The duties of a conscientious clergyman are every bit as toilsome and far more harassing than those of a mechanic or day labourer, and he should make it a rule to take a thorough holiday every Monday. It should be a day of out-door recreation, and cessation from all work. This will in some degree compensate for the great mental and physical expenditure involved in the discharge of the duties of the Gospel on Sunday.

Clergymen and lecturers often get into the habit of speaking in a voice which is

not natural to them. They use an assumed tone of voice, in many cases probably unconsciously imitating some one whose delivery they admire. Undue stress is laid on the larynx and vocal cords, which ultimately yield to tension. The best way is to take the opinion of a teacher of elocution on the point, and follow his advice.

The beard and moustache should be permitted to grow, as they form the best of all protections for the throat. In men, throat affections occur chiefly, and it is said almost exclusively, amongst those who do not wear a beard. It is the opinion of many medical men that the beard not only adds materially to the general health and comfort of the individual, but is a powerful agent in prolonging life. It is said that amongst the records of the older medical writers there are few references to diseases of the throat, and that this is attributable to the then almost universal custom of wearing a beard. This may be true, or it may not; but at all events, if you habitually suffer from sore throats, our advice is—grow a beard if you can.

The sulphuretted waters of the Pyrenees, especially of Les Eaux Bonnes, are viewed by the French as almost a specific for *mal de gorge des ecclésiastiques*, and undoubted benefit is often derived from their use, especially when the voice remains weak after the other symptoms have been removed.

SORE THROAT (ORDINARY).

This is simple inflammation of the throat, without the affection of the tonsils which, as we have seen, is characteristic of quinsy.

The most frequent cause of this complaint is exposure to damp and cold. All causes which tend to lower the condition of the general health, and more especially over-work in a vitiated atmosphere, act as predisposing causes. It is met with chiefly in young people, but may occur at any age. Those who have had one attack are very likely to suffer from it again.

The chief symptoms are heat and dryness in the throat, with acute pain on swallowing, and more or less of hoarseness of the voice. There is a constant desire to cough, without anything being hawked up. Drinks sometimes regurgitate through the nostrils, and there is often much pain and stiffness about the angles of the jaw. From the quantity of saliva secreted, there may be an almost constant desire to expectorate. The symptoms are usually aggravated towards night.

The complaint is accompanied by more or less constitutional disturbance, the temperature varying from 101° to 102° Fahr., and the pulse from 100 to 120 beats in the minute. Sometimes the commencement of the attack is marked by slight rigors or chilliness, with headache and aching pains in the limbs.

The inflammation usually continues for about a week, and then gradually subsides. It is unattended with danger, unless, indeed, the larynx becomes affected, and there is shortness of breath, when the doctor should be sent for. Sore throat, although a comparatively trivial complaint, should not be neglected, as it is apt to become chronic, and it then runs an indefinite course, and is by no means easy to cure.

The patient should remain in-doors, but need not take to his bed, rest and a uniform temperature being all that are required. The diet should consist chiefly of

"slops," as, for example, strong beef-tea, milk, eggs, &c. No stimulants are as a rule necessary.

The medicinal treatment is very similar to that which we have recommended in quinsy. In the early stage, when the patient is feverish, aconite (Pr. 38) should be given. It is indicated when the prominent symptoms are dryness, roughness, and heat in the throat, accompanied by a choking sensation. Belladonna (Pr. 39) is useful when the fever has been brought down by the aconite, and when there is pain on swallowing and the throat feels as if it had been scraped raw. The grey powder (Pr. 71) is useful when there is a sensation of a lump in the throat, or when the secretion of saliva is much increased.

Quite at the commencement of the attack a Turkish bath will do good. The constant sucking of ice or gargling with milk-and-water always proves beneficial. Prs. 103, 108, 110, and 111 are useful when the acute symptoms have subsided.

SORES, OR ULCERS.

Ulcers are of common occurrence on the legs. They are especially liable to be produced by all those circumstances that favour weakness of the circulation, and lowered vitality, as, for example, exposure to cold and wet, want of food, and long standing. They are common at or after the middle period of life, especially in the poorer classes. In constitutions or parts predisposed to it, the slightest irritation may produce ulceration. Tall people more frequently suffer from sore legs than do short. When situated over bony prominences they are far more difficult to heal than when they have a good thick layer of muscle or fat beneath them.

There are many varieties of ulcers, not solely being dependent on local conditions, though these undoubtedly influence them greatly, but to a great extent due to constitutional causes. In fact, the aspect of a sore and the character of the discharge are excellent indications of the state of health and general condition of the patient, as well as of the local disease. Even the influence of sleep is well marked. After a restless night a sore is commonly painful, throbbing, inflamed, and swollen, and is apt to spread, whilst after a refreshing sleep it presents a much more healthy appearance. The simplest form of ulcer is what is called the healthy ulcer. It is usually circular or oval in shape, slightly depressed, and covered with matter. It has a natural tendency to get well. Its treatment should be as simple as possible. The best thing is to get some lint, cut it to the size of the ulcer, dip in a weak carbolic acid lotion (1 in 400), then lay it on the sore, and cover it with a rather larger piece of oiled-silk, and prevent it from getting dry. A nicely-applied bandage will keep the dressing in place, and will also give support to the part. When an ulcer is weak or indolent, and exhibits no inclination to get well, it is a good plan to apply some stimulating lotion. One of the best is known as "red-wash." It is made by dissolving forty grains of sulphate of zinc in a pint of water, and then adding half an ounce of compound tincture of lavender. It is used on lint in exactly the same way as the carbolic acid lotion. It is in constant use in many of our London hospitals for cuts, sores, and abrasions of all kinds. When an ulcer gets inflamed, a condition characterised by much redness, heat, and swelling of the

surrounding parts, with a thick, offensive discharge, often streaked with blood, the application of a piece of lint, kept constantly moist with a mixture of spirit and water, will do good. It should not be covered with oiled-silk, and the leg should be supported either on the sofa or on a chair. For ulcers of the leg resulting from enlarged or varicose veins, nothing is better than to use the red lotion, and then to wind a bandage made of some elastic material all up the leg, beginning from below. The bandage should be put on in the morning, before getting out of bed. An elastic stocking will do equally well, and is less trouble, though of course it is more expensive.

Constitutional treatment is an important element in the cure of ulcers ; in fact, unless this be attended to the best regulated local measures may be employed in vain. For the process of healing to go on satisfactorily, it is absolutely necessary that the strength should be well supported. When the patient is weak and pulled down, such remedies as quinine (Pr. 9 or 11), cod-liver oil, or Parrish's Chemical Food should be used. When there is anæmia, or poorness of the blood, a few doses of iron (Pr. 1 or 2) will often work wonders. When there is any suspicion of a gouty taint, either hereditary or acquired, the colchicum mixture (Pr. 33) should be taken, and the strictest moderation must be employed in the use of stimulants. When the patient has at any time—even years before—suffered from constitutional syphilis, he should consider the possibility of his sore being due to that cause, and would do well to resort for a time to the iodide of potassium mixture (Pr. 32). In every case the nutrition must be carefully attended to. If a patient is losing weight his ulcer will not heal. It is only when the nutrition is capable of maintaining or increasing the bodily weight that the healing process can be expected to take place. The bowels must be kept freely open, and a warm bath should be taken occasionally.

There is no better mode of treating ulcers than by rest. When an ulcer proves obstinate and will not heal, take a thorough rest, if it be only for a week. There is no occasion to keep in bed, but no walking is admissible, and the leg should be constantly supported, and should never be allowed to hang down. When rest positively cannot be taken, bandaging is always a safe mode of treatment, the actual sore being protected by damp lint from contact with the coarse fabric of the bandage. A dirty bandage must never be used. The frequency with which the wound is dressed will in a measure depend on the amount of discharge. As a rule, twice a week is often enough. In the treatment of ulcers, as of so many other complaints, undeviating cleanliness is of the utmost importance. The uncleanly habits of many people, who allow their feet and legs to remain unwashed from week's end to week's end, induces an imperfect vitality of the skin, which favours the formation of ulcers, and renders them difficult to cure. Washing the lower extremities daily is one of the most potent means of preventing and curing sores on the legs, restoring, as it does, the lost vitality of the parts.

There are many other modes of treatment that may be resorted to should these measures fail. Finely-powdered cinchona bark dusted over foul, indolent, or sloughing sores, and left to form a kind of poultice, not unfrequently promotes the healing process. Glycerine of carbolic acid is a useful application for fetid sores,

quickly removing the offensive odour of the discharge. A good soothing application is calendula lotion (Pr. 97). It is made by adding thirty drops of tincture of calendula (the common marigold) to a tea-cupful of water. Common lime-water, to which a little glycerine may be added, is a soothing application for sores from which there is much discharge. Glycerine of tannin lightly painted over a discharging ulcer will cover it with a film of coagulated mucus, beneath which the reparative process takes place rapidly. For ulcers with a hard base and overhanging edges, a good lotion may be made by dissolving one grain of common bichromate of potash in eight ounces of water. When a sore is indolent, and shows but little tendency to heal, it is a good plan to draw a stick of lunar caustic over the surface once or twice. It causes very little pain. In very obstinate cases the surgeon often resorts to the process of "skin-grafting." This consists in removing very minute fragments of skin from some other part of the body, or even from another person, and then putting them on the surface of the sore. They are to be covered with little squares of oiled-silk, dressed with some simple lotion, and then left undisturbed for four or five days. At the end of that time they will probably have disappeared, but soon each of these spots becomes a centre from which healing takes place rapidly. For a small ulcer two or three "grafts" will have to be used, for a larger one half-a-dozen, or perhaps more. They are conveniently taken from the forearm or leg, being cut off with a pair of scissors. The process gives no pain, and the great point is to cut so small a piece that no blood is drawn. This mode of treatment greatly facilitates the process of cure.

STOMACH.—INFLAMMATION OF THE STOMACH.

Acute inflammation of the stomach and inflammation of the bowels are so intimately associated that the two subjects may be conveniently described as one. It is remarkable, all things considered, how rarely inflammation of the stomach occurs. The stomach is essentially a long-suffering organ, and will bear a great deal before showing signs of irritation. Acute inflammation may arise from swallowing something more than usually irritating, or from a blow or wound, or possibly the inflammation may extend from some other part. In exceptional cases it arises from cold or wet, and sometimes from gout or rheumatism "striking inwards." The ordinary symptoms are pain, usually of a burning character, experienced chiefly at the pit of the stomach, with frequent vomiting, especially after taking food, often with hiccup and tenderness and swelling of the lower part of the abdomen. The temperature will be found to be elevated two or three degrees or more, and the pulse is quicker than usual. The patient feels faint and weak and ill, and is only too glad to take to his bed. The pain is increased by pressure, and often the slightest touch cannot be borne, not even the weight of the bed-clothes. The sufferer is tormented with extreme thirst, but everything is instantly rejected. The bowels are usually confined, but sometimes on the contrary there is diarrhoea with much griping and straining. This is a condition which might possibly be confounded with TYPHOID FEVER.

Acute inflammation of the stomach is a most serious affection, and where possible a medical man should be instantly summoned. Still, even when it is impossible to

obtain skilled assistance, much may be done to subdue the inflammation and relieve suffering. The patient should be undressed and put to bed. Should the bowels be confined, a simple enema should be given of a pint or more of gruel or soap-and-water. A large hot linseed-meal poultice should be applied over the whole abdomen, and this should be renewed every two hours or oftener both night and day. The best medicine to begin with is the aconite mixture (Pr. 38), a tea-spoonful every ten minutes for the first hour, and then hourly or every two hours for one or two days. Under the influence of the aconite the pulse becomes slower and softer, and the skin cooler and moister, whilst the pain subsides and the patient falls into a quiet slumber, from which he awakes refreshed and better in every way. The thirst, which is so distressing a symptom, may be relieved by sucking small pieces of ice. At first, probably, no food will be retained, but after a few hours the patient will be able to take a little milk, or milk and soda-water, or milk and lime-water, care being taken not to give more than a tea-spoonful at a time. As the pain and inflammation subside, a little beef-tea or Brand's essence, or even a little weak brandy-and-water may be tried. When the vomiting is very persistent, the aconite may be discontinued, and the arsenic mixture (Pr. 40) substituted; or should this fail, the tartarated antimony mixture (Pr. 46) may be given. There is a special form of inflammation of the bowels which attacks women who have been recently confined, and this is treated in the same way.

STOMACH.—DISEASES OF THE STOMACH.

For BLEEDING from the Stomach, *see* p. 137. For CANCER of the Stomach, *see* p. 169. For ULCER of the Stomach, *see* p. 568.

SUNSTROKE.

Sunstroke, *coup de soleil*, insolation, or heat apoplexy, for by all these names is this complaint known, has been recognised from the earliest times, and could in fact hardly have escaped observation. There is a case of it related in the Bible. "And Manasses was her husband, of her tribe and kindred, who died in the barley harvest. For as he stood overseeing them, and bound sheaves in the field, the heat came upon his head, and he fell on his bed and died in the city of Bethulia." It is by no means uncommon in this country, and during the summer months one can hardly take up a paper without seeing the account of a case. In tropical climates it is of much more frequent occurrence than with us. In England the field labourer is the most frequent sufferer, but in India the greatest number of cases occur amongst troops engaged in long marches under a scorching sun. Exercise exhausts the store of nervous force and increases the natural warmth of the body, the high temperature of the surrounding air precludes due radiation from the surface, and the result is a sunstroke. The effects of a high temperature are much influenced by the style of dress adopted. In India sportsmen often expose themselves to the hottest weather when in pursuit of game, but they rarely suffer provided they take the precaution to wear loose light clothing and to protect the head and spine by a suitable head-dress. On the other hand, men dressed as our soldiers used to be, in tightly-fitting clothing, encumbered with heavy, ill-arranged accoutrements, and furnished with a

head-dress that was useless or worse than useless, succumb to the effects of heat in large numbers.

Exhaustion as the result of prolonged exercise is a powerful predisposing cause of sunstroke. When severe muscular exertion is carried on for any length of time, as in prolonged marching, under a continuously high temperature, perspiration ceases, and not only is the cooling effect of its evaporation lost, but impurities are retained in the blood. The result is that the sufferer soon becomes wretchedly weak, and readily falls a victim to the excessive heat.

Direct exposure to the rays of the sun is by no means necessary for the production of sunstroke. It is not of unfrequent occurrence among men shut up in the impure and heated air of close barracks in hot climates. It is often observed on board ship when overcrowding and impure air are added to the influence of excessive heat. It is not of frequent occurrence in ships in mid-ocean, but it is common enough in the Red Sea during the months of August and September. It is especially to be dreaded when excessive heat is aggravated by prolonged calms.

It is now well known that men will bear a high temperature in the open air with comparative impunity, provided it is not too long continued, that the dress is reasonably adapted to the temperature, that the free movements of the chest are not interfered with by straps or baggage, and that alcoholic liquors are not indulged in.

The symptoms of sunstroke vary much in different cases. Often without the slightest warning the patient falls, gasps, and expires before anything can be done for him. Sometimes the attack is less sudden in its mode of onset, and there are premonitory symptoms giving notice of the coming danger. The skin gets very dry and hot, and the temperature rises to 107° or thereabouts. The patient complains of giddiness, weakness, and nausea, and often of an inability to hold his water. Soon he becomes hysterical or delirious, and rushes out roaring with laughter, or perhaps screaming with terror in an attempt to escape from some imaginary enemy. People in this state have endeavoured to take their lives or to injure those who have tried to restrain them. After a time the patient becomes insensible, the heat and dryness of the skin augment, and the closing scene is ushered in by an attack of convulsions. In the former variety death ensues almost instantaneously, whilst in the latter the symptoms may be protracted over a couple of days.

Now as to the treatment of sunstroke. Throw some water over your patient, and carry him as quickly as possible to the nearest shade. Strip off his clothes, and douche his head, face, and chest with cold water. If this treatment be quickly and energetically performed it may save his life. Should the skin remain hot, repeat the douche at intervals. Apply ammonia, or sal volatile, or smelling-salts to the nose occasionally. If sensibility be not restored by the douche, apply a blister to the nape of the neck, or get the head shaved and put a blister on the scalp. Two drops of croton oil placed at the back of the tongue will cause the bowels to act, and will do good. Get medical advice as soon as you possibly can.

Bleeding should never be resorted to. When the patient is bled he nearly always dies. In illustration of the pernicious effects of bleeding in sunstroke the

following case is related :—" During active service in the presence of the enemy, an officer of rank had sunstroke. The assistant-surgeon in medical charge of the battery where this happened had the sufferer instantly removed to the nearest shade, stripped him, used the douche freely, and had the satisfaction to see his patient revive and consciousness return. An *official* superior "*an older, not a better*" physician, unhappily coming up at this critical moment, insisted on opening a vein; a few ounces of blood trickled away, and so did the life of the officer." Death immediately followed the operation.

When there are convulsions the administration of chloroform is often attended with the most beneficial results. By prompt, careful, and judicious treatment one may fairly hope for recovery. At the same time, those who recover are scarcely ever the men they were before; they are subject to persistent headache, lose their memory and their force of intellect, and become incapable, fatuous, and even paralytic. Epilepsy often occurs in those who have an hereditary tendency to it. For the persistent headache following sunstroke the best treatment is bromide of potassium, in two-table-spoonful doses of the mixture (Pr. 31). An occasional blister applied to the nape of the neck will do good. The general health should, as far as possible, be maintained and improved by friction of the skin, bathing, exercise in the open air, and so on.

For the prevention of sunstroke the following rules are important :—A cold bath should be taken every morning, to ensure a free and clean skin. Natural perspiration should not be checked. The clothing—flannels are the best—should be light and loose, and the head and spine should be protected by thin folds of white linen or serge, which may be kept wet if the heat is excessive. All intoxicating liquors—beer, wines, and spirits—are to be avoided; but water, tea, lemonade, or some other simple drink should be taken freely.

Directly there is experienced any sense of pain or tightness about the forehead, or dizziness, or weakness, the sufferer should lie down, and have cold water poured gently over his head. Cold tea or coffee or iced water should be given to drink. A little sal volatile will do no harm, but spirits should not be given unless the prostration is very great.

The following are briefly the rules which should guide the management of soldiers and others travelling in tropical climates :—The weak and sickly had better be left behind when the heat is very great. The costume should be adapted for the early morning hours before sunrise, as well as for the scorching heat which follows. A flannel shirt should be worn, and the neck should be perfectly free. Nothing should be permitted to impede the free movements of the chest. The men should march "easy," and the pace should not exceed three and a half miles an hour. There should be a halt of five or ten minutes every hour, and a longer half way, when every one should have a biscuit and a cup of coffee. When the sun is up the halts should be so timed that they may be obtained in the shade of trees. In camp as much space should be allowed between tents as possible.

TETANUS—LOCKJAW.

Tetanus is a disease the prominent feature of which is spasm. We medically recognise two different kinds of spasm. In one form, which we call *tonic* spasm, there is a continuous contraction of the muscles, just as when you get cramp in the calf of the leg. In the other kind, *clonic* spasm, there are alternate contractions and relaxations of the muscles, just as you get, for instance, in convulsions. In tetanus the spasm is entirely tonic, the muscles being in a constant state of contraction.

Most cases of tetanus are caused either by exposure to cold and wet, or by bodily injuries. Not unfrequently both causes co-operate in producing the disease. When it sets in spontaneously—as it does sometimes—or as the result of cold, it is called *idiopathic* tetanus; and when it comes on after a wound or injury we speak of it as *traumatic* tetanus. In this country idiopathic tetanus is rare, nearly all our cases being traumatic. It is a curious circumstance that tetanus occurs much more frequently in hot climates than in cold. In India tetanus is frightfully common, and is a frequent cause of death after operations.

Tetanus is liable to follow injury of any kind, to any part of the body. It may set in after the slightest scratch or wound, or after the most severe surgical operation. The disorder more frequently supervenes upon injuries of the extremities than of the trunk, head, or neck, and upon wounds made by puncture, than upon other hurts. Penetrating wounds of the sole of the feet, such as may be inflicted by treading on a nail, and injuries to the ball of the thumb, are more likely than other injuries to be followed by tetanus. There is a prevalent opinion that tetanus is very apt to arise from a cut between the first finger and thumb, but we are not aware that this has any foundation in fact.

The symptoms set in suddenly, the muscles of the neck, jaws, and throat being usually first affected. The patient experiences a difficulty and uneasiness in bending or turning his head, and says he feels as if he had a sore throat and stiff neck. He finds also that he is unable to open his mouth with his customary ease. At length the jaws close, sometimes gradually, and sometimes it is said, quite suddenly with a snap. In the majority of cases the disease begins in this way—hence the origin of the name *lock-jaw*. As the disease proceeds the remaining muscles, those of the trunk, and lastly those of the extremities, become implicated. The spasm never entirely ceases, except in some cases during sleep, but it is aggravated every quarter of an hour or so, the increased cramp lasting for a few minutes and then partially subsiding. When the big muscles of the back are chiefly affected they bend the body into the shape of an arch, so that during a paroxysm the patient rests on nothing but his head and heels. Sometimes it is the muscles on the front of the body that are chiefly involved, and the patient is then bent forward till the head and knees are almost in contact. Occasionally, though very rarely, the muscles on one side only are affected, and then the body is bent laterally. The suffering caused by tetanic spasm is absolutely frightful to contemplate. The face becomes deadly pale, the brows are contracted, the eyes are fixed and prominent, the nostrils are dilated, the corners of the mouth drawn back, the teeth exposed, and all the

features fixed in a ghastly grin. The tongue is apt to get between the teeth, and to be severely bitten. The contractions are often attended with intense pain, which is worse during the paroxysm, and extends over the whole body. With all this disturbance of the muscular system there is commonly very little derangement of the other functions of the body. The intellect is not affected, and the patient is painfully alive to the critical nature of his condition. Death at length closes the scene, the release being due partly to suffocation, and partly to exhaustion.

The tetanic symptoms may come on at any time after the receipt of the injury, from a few hours to a couple of weeks. After the disease has set in, its rate of progress is very variable, but death is most likely to occur between the third and fifth days. If the patient survive the ninth day of the disease, his prospects of recovery are much more favourable, and the spasmodic symptoms may gradually abate and disappear. When the spasm is not violent, when the paroxysms are short, and recur at long intervals, and when the patient is able to sleep, we may hope for a favourable termination. In traumatic cases the longer the disease delays its assaults after the receipt of the injury, the milder, in general, does it prove.

There is no difficulty in recognising the existence of tetanus. There is no other disease for which it could be mistaken, with the exception, perhaps, of that wonderful complaint hysteria, which may simulate almost anything. The symptoms produced by poisonous doses of *nux vomica*, or its active principle, strychnia, are, however, almost identical with those of tetanus, and it is well-nigh impossible to distinguish between them. When a large poisonous dose of *nux vomica* is administered death either rapidly ensues or the symptoms decline, and recovery takes place. *Nux vomica* may, however, be given in small doses, frequently repeated and gradually increased so as to imitate exactly the phenomena of tetanus from natural causes.

We will now speak of the treatment of tetanus. The patient must be put to bed, and should be kept as quiet as possible. The slightest touch, a breath of cold air, or the slamming of a distant door will often excite a paroxysm. Nothing proves more injurious than meddlesome nursing. We have as yet no specific for tetanus, and it is consequently impossible to speak dogmatically as to its treatment. We can do little more than enumerate the remedies from which most benefit has been derived. The drug on which we place most reliance is Calabar bean. To do any good it must be given in large doses, but we can hardly recommend its administration except under the personal superintendence of a doctor. Large doses of chloral sometimes do good, and even when this remedy fails to effect a cure it often prolongs life and eases the pain. The inhalation of nitrite of amyl might do good. *Gelsemium* (Pr. 41) has been warmly praised in the treatment of tetanus, and several cases are recorded in which recovery has followed its administration. The application of an ice-bag to the spine, a measure which has been found extremely useful in convulsions, is well worthy of a trial. The spinal ice-bag was described when speaking of sea-sickness (*see* SEA-SICKNESS). The continuous administration of chloroform has in some cases proved beneficial. In tetanus resulting from injury it is very necessary that the wound should be carefully examined to see whether by chance any foreign substance may not have been left in the wound.

THROAT, DISEASES OF :—

See QUINSY, INFLAMMATORY SORE THROAT, p. 464.

RELAXED SORE THROAT, p. 467.

SORE THROAT (CLERGYMAN'S), p. 513.

SORE THROAT (ORDINARY), p. 515.

TONSILLITIS (*see* QUINSY, p. 464).

TOOTHACHE (ODONTALGIA).

Speaking generally, we may say that decay is the most common predisposing cause of toothache, and that sudden changes of temperature, the application of irritants, and general bad health are the most frequent exciting causes. Let us take, for example, an ordinary case of toothache, in which the pulp of the tooth becomes inflamed. In the first place a hole is discovered in the tooth, which may have resulted from decay or from some mechanical injury. Food and other matters collect in the aperture, and are from time to time removed. Their presence at first gives rise to no trouble, but after a while certain irritants, such as sugar, or salt, or acid matters, when lodged in the tooth occasion considerable inconvenience, which ultimately amounts to positive pain. The removal of the irritating matter is soon followed by the restoration of comfort. This state of things may go on for some time, but sooner or later the pain, instead of passing off, steadily increases, assumes a throbbing character, becomes still more acute, and extends to the neighbouring teeth and the side of the face, the faulty tooth forming the centre of its intensity. After the lapse of some hours the pain usually subsides, to return again on the slightest provocation. This is a story we fear is only too familiar to many of our readers.

Like all other pain, toothache is more or less intermittent; it is seldom that it is perfectly continuous, or if it be so it will vary greatly in intensity at different times. The character of the pain, as well as its severity, is greatly affected by the general condition of the patient. A low condition of bodily vigour, whether produced by over-fatigue, prolonged abstinence from food, or other cause, will tend to produce pain of a diffused rather than of a localised character, and will markedly increase its severity. Many kinds of toothache temporarily take their departure when the system is thoroughly supported, as after breakfast or dinner.

Very frequently, in addition to the pain, the tooth is exquisitely tender, and sometimes it feels as if it were longer than it ought to be.

It is, however, not every case of toothache which is dependent on, or accompanied by, decay. Mere malposition of a tooth will often give rise to the most intense suffering. The wisdom teeth, when they are making their way through the gum, often cause severe pain, even when there is ample room for them to take their place. Pain which is in reality due to the wisdom teeth is not unfrequently felt at a spot further forward in the mouth, the patient referring to some other tooth as the seat of his suffering.

We must now proceed to the consideration of treating toothache. As toothache may, as we have seen, depend upon many different causes, it need excite no surprise that very many different remedies are used and have been proposed for its cure. A large number of nostrums are sold as applications to the teeth and gums for the cure of toothache. It is almost needless to say that there is no such specific remedy, and that a mode of treatment which in one case acts like a charm may in another prove a signal failure, and afford not the slightest relief. Much depends on the judicious selection of the remedy ; and that we may prove successful in our treatment it is very necessary that attention should be paid to the character of the pain and other attendant circumstances. We will, in the first place, refer to some of the remedies most frequently employed.

A few drops of chloroform on cotton wool inserted into the hollow of a decayed aching tooth often gives permanent relief, but sometimes when the anæsthetic effect has passed away the pain is aggravated, the application having irritated the inflamed pulp. A better plan is to fold over the hollow tooth a piece of lint moistened with chloroform, so that the vapour only comes in contact with the interior of the tooth. The preparation sold as camphorated chloroform often proves useful. A mixture of equal parts of chloroform and laudanum, or of chloroform and creasote, constitutes an excellent application.

Creasote may nearly always be employed with a fair hope of success. It may be mixed with an equal quantity of chloroform, or of laudanum, or with tannin. Laudanum either alone or mixed with tannin or creasote, and inserted into the cavity of the hollow tooth, enjoys a high and well-merited reputation.

For cases in which the pulp is exposed and inflamed, a jelly is made by melting in a test tube some crystallised carbolic acid, and then adding an equal quantity of collodion. A small quantity is placed on cotton wool and inserted into the hollow, painful tooth. It may at first somewhat aggravate the pain, but in a few seconds it diminishes and soon abolishes it. Care should be taken not to let it come in contact with the inside of the cheek, for, as we can testify from personal experience, it would give rise to considerable pain and smarting.

When there is a large hollow, and the pain is severe, a good application is a mixture of camphor and opium, of each one grain, made into a paste, with which the cavity should be filled, it having been previously dried by means of lint or cotton wool.

When equal parts of chloral and powdered camphor are rubbed up together, they form a syrupy liquid. This will sometimes succeed in relieving toothache even when applied externally ; but it is more likely to afford relief when introduced into the cavity of the decayed tooth on cotton wool.

A plug of lint dipped in sulphurous acid, and inserted in the hollow tooth, will often give immediate relief.

It is stated on good authority that toothache may in many cases be relieved solely by the internal administration of medicines. Drugs given for this purpose should be given simply in water, and not in combination with other medicines. Should laudanum or creasote have been previously applied locally, the mouth should be thoroughly rinsed out before resorting to any new mode of treatment.

Grey powder proves useful in many forms of toothache, and is regarded by many as one of the best remedies for this complaint. It is used for toothache resulting from a decayed tooth. It proves of most value when the pain is gnawing, tearing, or boring in character, and is aggravated by eating, and also at night in bed, but is temporarily relieved by cold water. It is of value when the pain affects the entire side of the face extending upwards to the head, and backwards to the ears. It is especially indicated when the toothache is accompanied by an increased flow of saliva, and by profuse perspiration in bed, which fails to afford relief. One of the "sugar and grey" powders (Pr. 71) should be given every ten minutes for an hour. In many cases it is a good plan to introduce a small quantity of grey powder, of course not mixed with sugar, into the hollow of the decayed tooth.

Aconite is useful in toothache arising from cold. It is especially indicated when the pain is sharp and stinging, and is relieved by cold water. This form of toothache is usually accompanied by heat of the face and chilliness. A drop of the tincture of aconite, or a tea-spoonful of the aconite mixture (Pr. 38), should be taken every ten minutes. This may be advantageously combined with the local application of a few drops of the tincture on cotton wool.

Belladonna is found to do best when there are shooting, throbbing pains affecting several teeth on one side, so that it is impossible to say exactly which tooth it is that is aching. This form of toothache not unfrequently shifts from place to place, and it is usually increased by both hot and cold applications. It is often accompanied by determination of blood to the head, flushed face, excessive sensitiveness to external impressions, such as noise or light, and by dryness of the mouth, and mental confusion. A drop of the tincture of belladonna, or a tea-spoonful of the belladonna mixture (Pr. 39), should be taken every ten minutes.

Arsenic is used when the pain is grinding in character, when it is increased by touching the affected tooth, or by lying on the painful side. This form of toothache is usually increased by rest and by cold, but is relieved by moving about, and by the application of warmth. Arsenic is also indicated when the pains are jerking in character, or when they occur chiefly, or are much aggravated, at night. It usually proves of benefit when the sufferer is much exhausted by the pain. A small tea-spoonful of the mixture (Pr. 40) should be taken every ten minutes for an hour.

Bryony is recommended when the pain is of a screwing character, when it is worse from warmth, is momentarily relieved by cold water, and more permanently by walking in the open air. A tea-spoonful of the mixture (Pr. 49) should be taken every ten minutes.

Nux vomica is found to be useful for darting pain in the teeth, and for toothache of a boring or gnawing character, especially when it comes on after dinner. A drop of the tincture of nux vomica, or a tea-spoonful of the nux vomica mixture (Pr. 44), may be taken every ten minutes for an hour.

Phosphorus should be given for tearing, shooting pains, worse in the open air, or after taking warm food. It is especially indicated when, in addition to

decayed teeth, there are gum-boils. Drop doses of the phosphorus solution (Pr. 53) may be taken every ten minutes for two hours.

Nitro-glycerine, or glonoine, is the remedy for pulsating toothache, accompanied by headache. A tea-spoonful of the one per cent. solution should be added to a pint of water, and of this a tea-spoonful may be taken every ten minutes till relief is obtained. It is a most valuable remedy.

Pulsatilla does good in cases where the pain comes on as soon as anything is taken into the mouth. The pain which is relieved by this remedy is worse in the evening, at night, and after the application of warmth. A tea-spoonful of the mixture (Pr. 43) should be taken every ten minutes.

Chamomile tea is indicated when the violent paroxysms of toothache come on from exposure to a draught, or from a sudden check to the perspiration.

Arnica is the remedy for pain in the teeth caused by mechanical violence. It does well in throbbing toothache, and in pain in the teeth as if they were being scraped. The tincture of arnica should be given in drop doses every ten minutes, or a tea-spoonful of the mixture (Pr. 42) may be taken in a like manner.

It will be seen that our remedies for toothache are sufficiently numerous. We will endeavour to classify the characters of the pain and the attendant circumstances for convenience of reference. When the toothache arises from cold or a chill, aconite, belladonna, grey powder, or nitro-glycerine are the remedies to select from. When the pain is connected with indigestion, we look to bryony, nux vomica, pulsatilla, or the grey powder. When it is associated with nervous symptoms, belladonna, nux vomica, or arsenic should afford relief. When it is rheumatic in its origin, we rely chiefly on grey powder, bryony, chamomile, or perhaps the *actæa racemosa*. When the pain is increased by cold, aconite, arsenic, or belladonna should afford relief; but when it is relieved by cold, we must trust to phosphorus or pulsatilla. When toothache is accompanied by headache, belladonna or glonoine is indicated; and when the teeth feel too long, belladonna, bryony, or aconite. We should always endeavour to use the drug which is indicated by the greatest number of corresponding symptoms or attendant circumstances. If a remedy affords no relief after five or six doses have been taken, another should be selected. The necessity for keeping a stock of the most ordinarily-used tinctures will be at once apparent. Considerable delay must of necessity arise from having to send to a chemist for each medicine as it is required.

We may take this opportunity of mentioning that pain consequent upon extraction or other dental operation may often be quickly relieved by rinsing out the mouth with a mixture of one part of tincture of arnica to ten of tepid water.

It should be borne in mind that chamomile is the remedy for the irritation produced in children by teething.

Gelsemium has been highly recommended for toothache. It is undoubtedly a very valuable remedy, but we are inclined to think that it does not do much good in pure toothache. It is the neuralgia arising from decayed teeth that it cures, and in these cases we believe that it stands almost unrivalled. Very frequently the pain of the decayed tooth and the neuralgia are experienced at the same time. If now gelsemium be given it will generally cure the neuralgia, but leave the

toothache unaffected. This, of course, is an advantage by no means to be despised, for neuralgia is usually a much more obstinate complaint than toothache. Ten-drop doses of the tincture may be taken every hour for three or four hours, or Pr. 41 may be employed.

Another excellent remedy for neuralgia arising from a decayed tooth is croton chloral. It should be given dissolved in water in five-grain doses every four hours.

When toothache resists every other means of treatment we may have to resort to a hypodermic injection of morphia, but this is seldom necessary.

Galvanism is occasionally employed in toothache. One pole is applied to the neck and the other is placed in contact with the painful tooth, a gentle continuous current being passed for two or three minutes. It does not always prove successful.

In the majority of cases in which a tooth is decayed a dentist should be consulted respecting the advisability of having it stopped. When the patient is so situated that he cannot obtain professional aid he may himself clean out the cavity and then fill it with white wax or prepared gutta percha. Of course, in many cases, where the decay is extensive, the only remedy will be extraction.

The importance of paying proper attention to the teeth cannot be over-estimated. One great cause of the decay of the teeth is the presence of bits of food, which stick between the teeth and then soften and ferment in the heat and moisture of the mouth, and become acrid and injure the enamel. The enamel is at first slightly discoloured at one point, then it gets soft, and eventually a little hole forms in it, which goes on enlarging and increasing until the deeper structures are involved and the pulp is exposed. Very often the secretions of the mouth mixed with the food dry on the teeth and between them, and form the so-called tartar, which is a powerful agent in the production of decay. The only way to guard against these dangers is to keep the teeth perfectly clean. They should never on any account be brushed less than twice a day. Brushing the teeth in the morning, and in the morning only, is not enough. When possible they should be brushed after every meal, especially when animal food has been taken. The avocations of many people, which take them from their homes, may not allow them to brush their teeth after every meal, but they can at all events thoroughly wash out the mouth with cold water, and thus remove most of the food which would otherwise adhere. The idea that frequently brushing the teeth tends to lacerate the gums and separates them from the teeth is erroneous. The oftener they are brushed the better, provided always that a moderately soft brush be used. The teeth should, of course, be cleaned inside and out; many people seem to think that as long as they clean those teeth or those parts of the teeth which are seen, they have done all that is necessary. The use of some simple tooth-powder is to be commended. When there is a tendency to decay tincture of myrrh often proves of much value.

The habit of taking very hot substances into the mouth should be avoided, as the heat may crack the enamel. On the other hand, the practice of sucking ice and subjecting them to the other extreme of temperature is equally to be deprecated. No one who has the slightest respect for his teeth would use them as nut-crackers. Smoking, but more especially chewing, tobacco is bad for the teeth. It should be remembered that the preservation of the teeth is in a great measure dependent on

the condition of the health, and this should accordingly be maintained in the highest possible state of integrity by the use of plain nourishing food, cold bathing or sponging, and early or regular hours.

TYPHOID, TYPHUS, AND OTHER FEVERS.

By the term "pyrexia," or fever, we mean that general condition of the system which accompanies, and is an essential constitution of, all fevers. Its existence is indicated by the combination of certain symptoms which are familiar enough to most of us. A high temperature, a quick pulse, a dry skin, and intense thirst are phenomena common to many diseases, and when they are present we say the patient is feverish, or that he is suffering from fever. In some diseases, such, for example, as small-pox and typhus fever, these symptoms apparently constitute the essence of the complaint, whilst in others, as, for example, inflammation of the lungs, they are evidently caused by, and are dependent on, a disorder or derangement of some particular portion of the body. In the former case, we say the fever is "primary," or "idiopathic," whilst in the latter, it is "secondary" or "symptomatic." All the complaints which we commonly call "fevers" belong to the first of these two divisions.

It is absolutely necessary that we should devote some attention to the consideration of fever regarded in its abstract relations before we can hope to study with advantage any particular fever, such as typhus, or typhoid, or small-pox. It is to fever in general that the following remarks chiefly apply, but we shall have frequently, in illustration of our subject, to refer to particular diseases. Fever is usually ushered in by certain "premonitory" or warning symptoms. At first there is a condition of general *malaise*. It is not very easy to say exactly what we mean by this term, but that is a matter of comparatively little importance, as every one must have personally experienced this condition at some time or other. The patient feels that there has been some departure from his usual state of health. He is weak, "seedy," "out of sorts," and is conscious of a disinclination for any active employment, and of a loss of interest in his accustomed pursuits. Sometimes there is a sense of lassitude or weariness attended with yawning or stretching. The patient is apt to be affected with disturbed sleep, mental confusion or debility, and depression of spirits, but not unfrequently he complains of nothing but a vague uneasiness or feeling of discomfort, which he is unable to refer to any particular part, or to ascribe to any special cause. These symptoms are exceedingly variable in degree and duration, sometimes continuing for several days, sometimes only for a few hours, and occasionally they are quite wanting.

Sometimes the occurrence of a "rigor," or shivering fit, is the first decided indication the patient has of something being wrong. The onset of this condition is not unfrequently abrupt and striking, the patient passing into it at once from the slight and scarcely appreciable disorder of the preliminary stage, or even from a state of seeming health. Sometimes, on the contrary, the chill is so slight, and is so intimately associated with the premonitory symptoms of which we have spoken, that it is impossible to decide on the exact time of its occurrence. In some cases

there is simply a greater sensitiveness of the surface to the impression of cold, so that a current of cool air, or the contact of a cold body, produces a feeling of chilliness which runs momentarily through the frame, and then subsides. The sense of cold, however, is usually more permanent, and quite independent of surrounding objects. It begins most commonly in the back, and extends to the limbs and over the body, producing chattering of the teeth, and sometimes universal tremor and shaking, and this may occur although the patient may be near the fire, or covered with blankets in bed. In some fevers the rigors are more intense, and of far more constant occurrence than in others. In small-pox they are definite and prolonged, and in typhus fever they are frequently well marked. In scarlet fever, diphtheria, measles, and acute dysentery, there may be a distinct rigor or only a passing sensation of chilliness. Typhoid fever usually commences insidiously, but in the cases in which the onset is sudden, a shivering fit is not of unfrequent occurrence. The cold stage of ague may be said to be composed of a succession of rigors. It is not improbable that shivering fits are induced more readily in some constitutions than in others. The mere snipping of a blister, an operation which it is needless to say is perfectly painless, will, in many people so far throw the nervous system off its balance, as to produce a rigor. Some individuals are so delicately organised that they can never pass water in the open air without experiencing a transitory feeling of chilliness.

It is often said that the rigor announces the entrance of the poison into the system, but this is obviously incorrect; for example, a person is brought in contact with a patient suffering from small-pox, but it is not till twelve or thirteen days after that he has a rigor, and the disease declares itself.

It would be no easy matter to persuade the patient that at the very time the rigor is at its height, and he is shivering with cold, his temperature is above the normal, and his body much hotter than it has been for weeks and months past, and yet such is the case. In children the place of the rigor is often taken by a convulsion. A convulsion not unnaturally causes considerable alarm and anxiety to the friends and relatives, but it should always be remembered that in the case of children it, at the commencement of an acute illness, means no more than does a shivering fit in an adult.

First and foremost among the conditions which indicate the existence of fever is an elevation of temperature. Without increased heat of the body fever cannot exist; elevation of temperature is the essence of fever. Formerly we judged of the temperature of the body by the hand, now, by means of the thermometer, we are enabled to estimate it accurately, and record it numerically. We used to speak of a patient being a "little feverish," or perhaps of his having a "high fever," but now we prefer to say that he has a temperature of 100° or 105° , or whatever it may be. The temperature is often of the greatest service in enabling us to determine the nature of the fever from which the patient is suffering, or, this being known, to detect the existence of complications or other changes in the patient's condition. In some acute diseases the range of temperature is very characteristic. Thus, in the different varieties of ague, the temperature suddenly and speedily rises to 105° or 106° Fahr., and then with equal rapidity returns to the normal, there

to remain until shortly before the return of another paroxysm. The temperature in some fevers is much higher than in others. For example, in an ordinary case of measles it seldom rises above 103° , but in scarlet fever it may reach 104° , or nearly 105° on the first day. When the temperature in any fever reaches 105° the case is serious, and if it remains long above 106° the patient is in imminent peril. Until within the last few years a continued temperature of 107° always proved fatal; but nowadays, by the use of the cold bath, we not unfrequently succeed in reducing the fever and saving the life of the patient.

Fever is almost always accompanied by an increase in the rapidity of the heart's action, and consequently by quickening of the pulse. It is often laid down as a rule that a rise of one degree in the temperature of the body corresponds to an increase of ten beats of the pulse in the minute, and this is, in the main, correct. In some fevers the pulse nearly always becomes very rapid. Thus, in scarlet fever it is often remarkably frequent. In this disease it may rise in the case of children to 160 on the first day of the illness. In typhoid fever a pulse of 130 is of serious import, and in typhus fever death almost always ensues when it exceeds 150.

A harsh, dry, burning heat of the skin is one of the symptoms of fever. A moist skin seldom gives the same sensation of extreme heat as is experienced when the skin is dry. In rheumatic fever or acute rheumatism the whole of the body is often bathed in perspiration, even when the patient's temperature is three or four degrees above the normal.

Headache is sometimes present in fever, but not always. In most cases it is felt in the region of the forehead; in fact, headache, unless dependent on some disease of the head itself, is nearly always frontal. It is a common accompaniment of the hot stage of ague, and is usually very intense in small-pox and typhus fever, more particularly in the latter disease.

Fever is often accompanied by pain, sometimes confined to one particular part of the body, but frequently not localised. In many fevers pain in the back is common, and in small-pox it is one of the most prominent of the early symptoms.

Confusion of ideas, or even distinct delirium, is not an uncommon result of fever. Frequently it shows itself at night only, or it may be perceived that the patient wanders a little on awaking from disturbed sleep. In typhus fever it is very common, particularly between the fourth and the eighth days. In this disease it varies very much in character, and may be active and maniacal, or low and muttering. Much active excitement is not very common, but extreme degrees of it are occasionally seen, the patient praying, bawling, or blaspheming, according to his habitual turn of mind. Very commonly the patient lies talking quietly to himself about matters which interested him at the time of his seizure, or on subjects suggested by what is going on, or what he supposes to be going on, around him. Sometimes in his delirium the patient may labour under the delusion that an attempt is being made to poison him, and acting upon this impression he may positively refuse to take nourishment of any kind. Patients will often tell you after their recovery that the period of delirium was to them a time of utter confusion, not only as regards time, and place, and people, but even respecting personal identity. Occasionally the patient

fancies that he is two or three different people, each of whom is suffering from inconceivable misery or torture.

Loss of appetite and constipation are common accompaniments of fever. In typhus the loathing for food may be so marked that it may be found necessary for the maintenance of life to feed the patient by the bowel. In rheumatic fever, curiously enough, the appetite is often retained. The diarrhœa, which is so prominent a symptom in typhoid fever, is due to ulceration of the bowel, and is consequently not an exception to the rule that fever is accompanied by constipation.

The general appearance is in some fevers so characteristic that to the practised eye a single glance may be sufficient to determine the nature of the complaint. This is especially the case in typhus fever, where the general aspect is so peculiar that it frequently forms an important element in deciding on the nature of a doubtful case.

Weakness and loss of weight are necessary concomitants of long-continued fever. It should always be remembered that fever does not mean strength, but weakness. Many people seem to imagine that fever means power.

In many fevers peculiar and characteristic odours are exhaled from the body of the patient. A practised nose would instantly detect the presence of a case of small-pox in a ward. The copious sweat in rheumatic fever has a strong acrid odour. The smell from the motions is in some diseases almost insupportable. This is especially the case in acute dysentery, the fœtid, even cadaverous, odour filling not only the room, but the whole house.

Certain terms are applied to different varieties of fevers, according to the course pursued by the temperature. When the temperature rises, and remains elevated until the termination of the illness or the establishment of convalescence, the fever is said to be a "continued" fever. Most of our common fevers, such as scarlet fever, measles, and small-pox, are continued fevers. When the fever comes on in paroxysms—first rising, then falling to the normal, then rising again, and so on—the fever is said to be an "intermittent" fever. Ague affords a typical example of an intermittent fever. When the temperature first rises, then falls nearly, though not quite, to the normal, then rises again, and so on, the fever is said to be a "remittent" fever. Typhoid fever towards its termination is essentially a remittent fever (*vide* CHART, p. 550). In a remittent fever the temperature in the interval of the paroxysms falls, but does not return to the normal, whilst in an intermittent fever it falls quite to the normal. In an intermittent fever there are periods at which the patient is quite free from fever; in a remittent fever, his fever never leaves him until the termination of his illness, although at certain times it is less marked than at others.

Hectic fever is that form of fever which supervenes when there is an habitual drain upon the system beyond what the nutriment taken in can supply and counter-balance. It is commonly met with in cases in which there is extensive formation and discharge of matter going on in some part of the body. It is a usual accompaniment of many chronic surgical complaints, such, for example, as a diseased joint with an open sore; and is sometimes met with in young mothers who have suckled their children too long. Its progress is often very insidious, but its main features are elevation of temperature, an abiding frequency of pulse, alternations of

chilliness with heat and flushing, followed by perspiration, and a gradual wasting of the body, accompanied by progressive debility. The temperature is usually remittent, there being a period of remission and a period of exacerbation occurring once, and sometimes twice, in the twenty-four hours.

Certain fevers, such as measles, scarlet fever, small pox, typhus, &c., are, as we know, generally spoken of as infectious diseases, that is they originate, or are believed to originate, through the infection of the system with certain poisonous matters. The poisons which give rise to these diseases differ from ordinary poisons chiefly in the fact that they can reproduce themselves under favourable conditions to an endless degree. For example, a child becomes infected with scarlet fever, this child can communicate the disease to ten or more people, and each of these to ten more in turn, and so on, so that from one child the fever may spread to 10, 100, 1,000, or 10,000 people. We find striking illustrations of this fact in the devastating scourges which at different periods in the world's history have spread over the surface of the globe. Infectious diseases have often destroyed the army of the conqueror, and have been the means of removing whole races of mankind from the earth. It is supposed by many students of ancient history that the prevalence of infectious diseases played a prominent part in the production of the fall of the might and civilisation of Greece and Rome. In former times epidemics of fever appear to have raged with much greater vigour than those which we nowadays are accustomed to witness. Thus we learn that in the middle of the fourteenth century an epidemic of fever, which occurred in Venice, carried off more than three-quarters of the inhabitants, and that the remainder escaped death only by flying to the islands. It is said that during the same epidemic more than a million lives fell a prey to the disease in Germany alone, and that in Italy scarcely the half of the inhabitants were left. Even at the present day the mortality from fevers is something enormous. It has been calculated that all the other mighty casualties of nature, such as earthquakes, volcanic eruptions, mountain avalanches, hurricanes, and inundations by sea, have never, in the whole of the world's history, destroyed even approximately half as many lives as a single ordinarily extensive epidemic. Even in our most sanguinary wars the devastation caused by the scientific instruments of death has been trifling compared with the mortality which has followed the outbreak of an epidemic of fever in the armies.

The causes which have operated to modify the severity of modern epidemics are well worthy of our best study and consideration. It is sometimes said that there has been a change in the type of disease, but it is infinitely more probable that the advance of civilisation, and the improved sanitary conditions under which we live, have been the important factors. When we consider how little was done during antiquity and the Middle Ages to stamp out disease and arrest the progress of pestilences, our only wonder is that the mortality, great as it was, was not considerably greater. It is probable that people owed their protection rather to the difficulties of travelling, and the slowness of communication, than to any efforts of their own.

It is now usually considered that most fevers are caused by the entrance of some very minute organism into the system. This view, at all events, in a modified

form, is by no means of modern origin, for in the days of ancient Rome the physicians considered that many diseases were caused by the presence of minute animals in the body. In the Middle Ages it was imagined that these animals could be seen flying through the air in dense clouds, and it was seriously proposed to blow trumpets and fire guns, and make a great noise during the prevalence of an epidemic, so as to frighten them away. It is almost needless to say that the organisms which nowadays are supposed to be instrumental in the production of fever are very minute, and that they can be seen only with high powers of the microscope.

A very marked peculiarity of the infectious diseases is what is technically known as their *specificness*—that is to say, that the same poison always gives rise to the same disease. We can best illustrate this by an example. A man may be exposed to cold and may be none the worse for it, or the result may be that he gets a cold in his head, or a cold in his chest, or he suffers from colic or diarrhœa, or tooth-ache, or rheumatism, or in fact any one of a great number of complaints. But should the same man be exposed to the poison of scarlet fever, he either catches that disease or nothing. It never, by any chance, results in small-pox or typhus fever, or any of the other acute diseases, and this is what we mean when we say a fever is *specific*.

In all fevers there is a certain incubative period, or period of incubation during which the poison remains latent in the system without producing any effects. You sit up to-night with a person suffering from a fever, and you want to know how long it will be before you can make sure that you have not caught the complaint. Unfortunately, this is a question which is not always very easily answered, for the period of incubation is in many fevers very variable. In some cases all we can say is that it may be only a few days, or as many weeks. Small-pox is the fever respecting which we can speak with the greatest certainty, its period of latency being fourteen days, or more accurately thirteen times twenty-four hours, from the moment of taking the disease. In some fevers—typhoid, for example—it is difficult to fix the exact date of the infection, and often quite as difficult to fix that of the commencement of the disease.

Most of the idiopathic fevers are characterised by a rash or skin eruption. The appearance of this rash usually enables us readily to distinguish one fever from another. The rash does not appear in all fevers on the same day of the disease—that is, at the same time from the commencement of the illness. In chicken-pox the rash comes out on the first day, in scarlet fever on the second, in small-pox on the third day, in measles on the fourth day, in typhus fever on the fifth day, and in typhoid fever about the end of the first week. This is the general rule, to which, however, there are a good many exceptions. Thus, the rash of measles may come out on the third day or the fifth day, or even the first day, of illness. Some rashes are much more punctual in their time of appearance than others; for instance, typhus nearly always comes out on the fifth day. Then, again, the rash in all fevers does not first appear in the same situation. In chicken-pox it may appear on any part of the body; in scarlet fever it sometimes comes out all over at once, but usually at first on the side of the neck and upper part of the chest; in small-pox it is first observed on

the forehead, face, and wrists ; in typhus on the back of the wrists ; and in typhoid on the chest or abdomen. In most fevers the rash comes out in a single crop, but in typhoid fever it appears in a succession of crops, each lasting only two or three days. Sometimes the fever may pursue its course without the production of any rash at all. Cases of small-pox are sometimes met with in which there is not a single spot, and in typhoid fever the eruption is said to be absent in a considerable number of the cases.

Care must be taken not to mistake flea-bites for the rash of any fever. Children are frequently brought to the out-patient room of our hospitals covered almost from head to foot with the bites of these parasites. The rash of the measles is at its commencement often compared to that of flea-bites, but the differences between them are always well marked, and they may be distinguished by the most superficial examination. Flea-bites usually consist of a central point of redness surrounded by a small ring of a less intense colour, the latter temporarily disappearing on making pressure with the tip of the finger, but the former persisting. They are most commonly met with on the front of the chest, particularly under the collar-bones.

The duration of the different fevers is very variable. For example, in measles the period which elapses before perfect restoration to health may be very short or it may be greatly prolonged ; the difference being, in a great measure, dependent on the previous habits of the patient. Typhus fever usually lasts from twelve to twenty-one days, and typhoid, in moderately severe cases, for three weeks or a month. In scarlet fever an improvement is commonly noticed after the end of the first week.

It is usually of the greatest importance to be able to decide as soon as possible as to the nature of any fever, more especially in the case of servants and people employed in large establishments, in order that, for the safety of others, they may be isolated, or removed as speedily as possible.

Before the appearance of the rash there is nearly always some uncertainty as to the diagnosis.

One may often make a very good guess from the nature of the prevailing epidemic, or from the presence of some contagious disease in the house or neighbourhood.

Some fevers set in abruptly, others insidiously. Thus, scarlet fever, small-pox, and typhus fever come on suddenly, whilst the onset of measles and typhoid fever is far less abrupt.

Information may often be obtained from the presence of some particular symptom. Thus :—

- | | | |
|---------------------------|--------------------------|---|
| 1. Pain in the back | would lead us to suspect | small-pox or typhus fever. |
| 2. Headache | „ „ | small-pox or typhus fever, but
more especially the latter. |
| 3. Headache and diarrhoea | „ „ | typhoid fever. |
| 4. A cold in the head | „ „ | measles. |
| 5. A sore throat | „ „ | scarlet fever. |

Next as to the prognosis, or probable results. The severity and danger of the case is best indicated by the temperature :—

When the temperature reaches 103° the fever is moderately severe.

”	”	104°	”	severe.
”	”	105°	”	very severe.
”	”	106°	”	dangerous.
”	”	107°	”	usually fatal.

When the skin is moist it is a good sign. When it is moist, but also sodden, like the hands of a washerwoman, it indicates great relaxation of the system, and is a bad sign. When, in addition to the skin being sodden, it is dusky, that is a very bad sign, indicating as it does considerable depression of the heart's action.

A fever may terminate in any one of several different ways. When the temperature falls suddenly, the termination is said to be by “crisis.” In several fevers there are what may be fairly called critical days. In typhus fever, the seventh and fourteenth days may be regarded as critical. Should the temperature fall considerably on the seventh day, this is a favourable sign, but should it fail to do so, the fever pursues a course of at least six days of increased danger. In typhoid fever it is not uncommon for a change in the course of the temperature to be noticed about the seventh day. When the temperature returns gradually to the normal, the disease is said to terminate by “lycic.” Not uncommonly we get a combination of termination by lycic and crisis, the temperature falling in an irregular manner by jerks.

The mortality varies considerably in different fevers. For instance, death from chicken-pox is a rarity, whilst in cholera the mortality in some epidemics is as high as 70 or 80 per cent.

The importance of a rational treatment of fever cannot be over-estimated.

It must always be borne in mind that we have no specific remedy for any of our common fevers. We cannot hope to cure them, and in many cases the object of the treatment is simply to conduct the fever to a favourable termination, and to ward off any intercurrent disease. Nevertheless there are certain drugs which, although not curative in their action, may be administered with advantage, as there is reason to believe that they modify the course of the disease.

First and foremost among these is aconite. Aconite is indicated in many affections marked by elevation of temperature, a rapid strong pulse, dry heat of skin, chills followed by burning heat, restlessness, constipation, and scanty high-coloured urine. It is doubtful whether its administration will shorten the fever of the acute specific diseases, such as scarlet fever, measles, &c., but it has a beneficial influence in these complaints, soothing the nervous system, and favouring sleep by inducing free perspiration. In typhus and typhoid fever aconite probably does but little good. It should be administered in the form of the aconite mixture (Pr. 38). Unless the temperature, as measured by the thermometer, falls during the twenty-four hours immediately succeeding the administration of the remedy, it will in all probability do but little good.

Tincture of gelseminum proves useful in many fevers, its action in some respects resembling that of aconite. It has been used with success in scarlatina, especially when occurring in children, and in the early stage of measles, when there is a thin

watery discharge from the nose. Gelseminum is also indicated when the fever is of a remittent character. The mixture (Pr. 41) may be used.

In the early stage of many fevers, but especially in typhoid fever, baptisia has been found useful. It may be given in any febrile disease which assumes a low or "typhoid" condition. It has been found to succeed in some cases in which aconite has failed. The dose of the tincture is a drop in a tea-spoonful of water given every ten minutes for the first hour, and subsequently hourly.

In all cases of fever it is very necessary to confine the patient to bed. The sick-room should be large and airy, and the less furniture it contains the better. In infectious diseases the carpet, curtains, and other superfluous articles, should be removed. Proper ventilation should be ensured by keeping the windows open for an inch or two at the top. Draughts should be avoided. Except in the height of summer, it is advisable to have a fire constantly burning.

The greatest attention must be paid to cleanliness; and stools, soiled linen, &c., should be removed without a moment's delay. Any smell or closeness in a sick-room is a sign of bad nursing.

The room should be kept as quiet as possible, and the fewer visitors the better. Worry and anxiety are very bad for the patient.

In all cases plenty of nourishment should be given. It is generally required in small quantities and frequently. The food should always be light and nutritious. Beef-tea, mutton broth, chicken or veal broth, arrowroot, gruel, eggs, milk, and jellies, are all useful. A variety may be found in vermicelli in beef-tea, mutton broth with rice or bits of toast, eggs in custard, or beaten up with milk, or with wine, and blanc-mange of isinglass or ground rice.

It is very essential to have these things prepared nicely, for sick people are often very fanciful. Try this method of making mutton broth:—One pound of the scrag end of neck of mutton, two pints of water, pepper, and salt, half a pound of potatoes, or some pearl barley. Put the mutton into a stewpan, pour the water over it, pepper and salt. When it boils, skim carefully; cover the pan, and let it simmer gently for an hour. Strain it, let it get cold, and then remove all the fat. When required for use, add some pearl barley or potatoes in the following manner:—Boil the potatoes, mash them very smoothly so that no lumps remain. Put the potatoes into a pan and gradually add the mutton broth, stirring it till it is well mixed and smooth; let it simmer for five minutes and serve with fricé bread.

Beef-tea with oatmeal is a very good combination. Mix two table-spoonfuls of oatmeal very smooth with two spoonfuls of cold water, then add a pint of strong beef-tea. Boil together for five or six minutes, stirring it well all the time. Strain it through a sieve and serve.

The patient is nearly always thirsty, and he should have enough to drink to satisfy his thirst. Large draughts impair digestion and set up diarrhoea. The best plan is to give small quantities frequently. Very commonly nothing is relished more than iced water, and it is a good plan to give the patient little pieces of ice to suck. Lemonade, soda water, currant water, raspberry vinegar, and cold weak tea, with or without sugar, are useful. The following makes a nice drink:—Pare the rind of three lemons as thin as possible, add one quart of boiling water, and a

quarter of an ounce of isinglass. Let them stand till next day covered, then squeeze the juice of eight lemons upon half a pound of lump sugar; when the sugar is dissolved pour the lemon and water upon it, mix all well together, strain, and it is ready for use. The following is a simpler method:—Well rub two or three lumps of sugar on the rind of a lemon, squeeze out the juice, and add to it half a pint or a pint of cold or iced water, or, better still, a bottle of soda water. Acid or acid and bitter drinks often prove very grateful. A weak infusion of cascarilla with a few drops of hydrochloric or nitric acid will be found useful. A glass of bitter may be given with advantage if there is a desire for it.

One of the most difficult problems to be solved in the treatment of fever is the necessity for the administration of stimulants, and the quantity in which it should be given. Great as are the beneficial effects of alcohol in many diseases, it should always be borne in mind that it can do harm as well as good. Many people do very well without any stimulant at all, and in no instance should it be given unless there is some special indication for its employment. At the two extremes of life the powers of the body are easily depressed, and in young children and old people stimulants are accordingly called for early, and must be freely used. In the aged especially it is of great importance to anticipate prostration by the early employment of alcohol, for this condition once established is with difficulty overcome. Young children prostrate with fever take stimulants with benefit, even in large quantities. In a disease like typhus fever, in which the depression is very great, stimulants are often called for early. The following practical rules will be found useful:—

RULES FOR THE USE OF STIMULANTS IN FEVER.

1. If, after stimulants, the tongue becomes more dry and baked, they are doing harm; if the tongue becomes moist, they are doing good.
2. If the pulse becomes quicker, they are doing harm; if it becomes slower, they are doing good.
3. If the skin becomes hot and parched, they are doing harm; if it becomes more comfortably moist, they are doing good.
4. If the breathing becomes more hurried, they are doing harm; if it becomes more tranquil, they are doing good.
5. If sleep is produced, and delirium quieted, they are doing good.

It should always be remembered that it is not the nature of the disease which is the indication for stimulant, but the condition of the patient. People sometimes ask how much brandy should be given in such and such a fever, but it is a question which it is simply impossible to answer.

The kind of alcoholic stimulant employed is not a matter of any very great importance provided always that its quality is good. The patient's taste should, if possible, be consulted; and brandy, gin, whisky, port, or sherry may be given. As a rule, we should prefer port wine or brandy. Sometimes a combination, such as the following, answers better than anything:—Scald some new milk, but do not let it boil. It should be put in a jug, and the jug should stand in boiling water. When the surface looks filmy, it is sufficiently done, and should be put away in a cool place in the same vessel. When quite cool, beat up a fresh egg with a fork in a tumbler, with a lump of sugar; beat quite to a froth, add a dessert-spoonful of brandy, and

fill up the tumbler with scalded milk. In some cases dry champagne forms an admirable stimulant. In whatever form the stimulant is given, it must be of the best. It is almost impossible to lay down any general rules as to the quantity. The rules we have given will form the best guide, and as long as the alcohol does good the quantity should be increased. In some cases a couple of ounces of port a day will be enough, whilst in others half a pint of brandy in the course of the twenty-four hours will not be too much. When stimulants are required at all in fevers, they should be given frequently, a little every hour, and not a large quantity two or three times a day. It is a golden rule never to give more stimulant than is absolutely necessary.

Restlessness is very detrimental to the welfare of the patient, and sleep may have to be ensured by the use of opium, chloral, or bromide of potassium. In fever the two great dangers are from exhaustion of the nervous system and enfeeblement of the heart's action. The nervous system is very quickly exhausted by want of sleep, and more especially by delirium. The appetite, digestion, and assimilation are greatly influenced by sleep. This influence is well seen in ulcers on the surface of the body. After a restless night they are painful, throbbing, inflamed, and swollen, and apt to spread, whilst after a refreshing sleep they have a much more healthy appearance. In fever want of sleep produces either noisy and furious delirium, as is frequently seen in typhus, or wandering and muttering, with picking of the bed-clothes, twitching of the muscles, and great prostration. In either case opium, judiciously given, may save an almost hopeless life. In delirium of the furious kind it is well to combine the opium with tartar emetic, as this combination calms the excitement and produces sleep more speedily and effectually than opium given alone. Three or four drops of laudanum and a drachm of antimonial wine should be given every two hours till tranquillity and sleep are ensured. In the low muttering delirium, with muscular tremors, dry skin, and prostration, laudanum may be given with signal benefit. A drachm of laudanum is mixed with four ounces of water, and of this a tea-spoonful is given every five or ten minutes till three or four doses have been administered. If by that time the patient is not asleep, the medicine should be discontinued for half an hour; then, if sleep does not come on, a few more doses should be given in the same way. This method often ensures calm, refreshing, invigorating sleep, lasting several hours, out of which the patient wakes free from wandering, refreshed, the tongue moister, the appetite and digestion improved, and the skin comfortably moist. The administration of laudanum, by producing refreshing sleep, often tides a patient over this critical stage with far less consumption of alcoholic stimulant than would otherwise have been required.

The great advantage of giving opium in small doses and frequently is, that the desired result is obtained by the use of the minimum quantity. It must be admitted, however, that sometimes a single large or moderate dose of opium will answer better. Opium is especially indicated in cases in which there is either diarrhœa or a dry skin. Very frequently a combination of opium and chloral will act much more efficaciously than either drug alone. A single dose of fifteen grains of chloral and ten drops of laudanum may be given in an ounce of water. Fifteen or twenty grains of bromide of potassium may succeed in quieting the nervous system and producing sleep when the other drugs have been given in vain.

Heat and dryness of the body may be alleviated by washing the surface with soap and tepid water several times a day. In order to avoid the risk of catching cold, one part should be washed and dried and covered before another is exposed.

The lips, tongue, and gums, when dry or coated with dried mucus, should be washed and kept moistened by the application of glycerine. This greatly improves both the comfort and appearance of the patient. If the sweet taste of the glycerine is unpleasant, it may be diluted with an equal quantity of water or lemon-juice.

Delirium, such as occurs in typhus fever, may sometimes be controlled by the administration of tincture of belladonna, a tea-spoonful of the mixture (Pr. 39) being given every quarter of an hour for the first hour, and subsequently hourly.

The bowels should be opened daily, and it may be necessary to employ some mild laxative, such as castor oil. Purgatives should be used with care, as they are apt to set up obstinate diarrhœa.

When the patient is drowsy, care should be taken to see that he passes his water at proper intervals.

There are several ways in which the abnormal temperature of the body may be reduced. Large doses of quinine may be advantageously used for this purpose. The cold bath has been extensively employed in Germany for the reduction of temperature, and the results have been extremely satisfactory. These methods of treatment are described more fully under the head of typhoid fever (*see* TYPHOID FEVER). The cold pack often proves of the greatest service in the acute specific diseases. It has long been employed in scarlet fever, and should be used from the beginning, and throughout the disease. In moderate attacks it is sufficient to pack the patient from thirty to fifty minutes, but if the rash comes out slowly, imperfectly, and of a dull red colour, or if the patient is restless and wandering, the packing must be continued an hour or two longer, and may be repeated three or four times a day. This treatment develops the rash, greatly reduces the fever, quiets the pulse, renders the skin moist and comfortable, and abates the restlessness and wandering. A short time after the application of the wet sheet, a patient previously restless and wandering commonly falls into a quiet, refreshing sleep, and awakes calm and free from delirium. The influence on the pulse and temperature is also very striking, the former in a few hours falling fifteen to twenty beats in the minute. The packing is especially indicated on suppression or recession of the rash, when serious symptoms are apt to arise; the cold sheet will then bring out a brilliant rash, generally followed by immediate improvement of the patient's condition. It may be mentioned incidentally that in scarlet fever a cold wet compress, renewed every three hours, may be advantageously worn round the throat, and if, on the decline of the fever, the tonsils remain large, this application, renewed less frequently, or applied only at night, may be continued till these morbid conditions are got rid of. This is a digression. It should be stated that cold packing in the reduction of temperature proves equally beneficial in measles, small-pox, and the other fevers.

Alcohol reduces the temperature slightly in fever, but its efficacy in this respect is so insignificant, and doses so enormous must be taken to produce even trifling results, that it is useless to give it solely with this intention.

In most infectious diseases it is necessary to isolate the patient. In severe cases two people should be appointed to act as nurses, one for day and the other for night duty. They should confine themselves strictly to the apartments of the patient, and should not communicate with other inmates of the house. It is a good plan to give up the whole of the top floor for the sole use of the patient and his attendants. A large sheet should be hung outside the door of the sick-chamber, so as to completely cover the doorway. The sheet should be dipped several times a-day in a pail of carbolic acid and water (in the proportion of one part to eight) kept outside for the purpose. A sheet should also be suspended at the top of the stairs. Food, &c., should be brought as far as the sheet and there left, the nurse being called to take it in. It is only by the greatest care that many diseases can be prevented from spreading.

After the patient has recovered from any infectious disease the room or rooms which he has occupied should be thoroughly disinfected. The woodwork should be washed with soft soap and water, to which carbolic acid, in the proportion of one pint of the common liquid to three or four gallons of water has been added. The room should be fumigated for three or four hours by means of burning sulphur. The doors and windows and the chimney should be closed, and a pound of sulphur should be put in a metal dish, covered with spirit, and then lighted. After three hours the doors and windows should be opened and kept open for from twenty-four to thirty-six hours. It is essential that plenty of sulphur should be used, and when the room is large it is desirable to have some at each end. Any old iron pot will do to contain it. The fumes from the burning sulphur are very irritating, and care must be taken to avoid inhaling them.

The soiled linen and bedclothes should be boiled for some hours in water to which chloride of lime or carbolic acid has been added. Mattresses and clothes which cannot be washed may be disinfected by baking them in a hot chamber, or by subjecting them to the fumes of burning sulphur. Hair mattresses should be taken to pieces before being fumigated.

During the stage of convalescence much of the day should be spent out of doors, and a change of air should be resorted to as soon as the patient is able to bear the journey. Attention should be paid to clothing, and flannel should be worn next the skin. The hours of rest should be long, and sleep may be indulged in with advantage for a short time during the afternoon. Every care should be taken to ensure a good night's rest. The supper should be light, and should be taken one or two hours before going to bed. Plenty of good plain food should be eaten at regular hours. Stimulants are required, if at all, in small quantities, and should be taken only with meals. Sea-bathing will be found of the greatest possible service. The bath should be taken about three hours after breakfast. At first the patient should stay in the water for only a very few minutes. In addition to the sea-bath a cold sponge-bath should be taken every morning on getting out of bed. Tonics, such as iron, quinine, and cod-liver oil may sometimes be used with advantage. It should always be remembered that a patient during convalescence is in much the same condition as a child. Convalescence is a period, if not of growth, of great repair—a condition analogous to growth.

Sometimes after a bad attack of fever the hair comes out, and shows very little inclination to grow again. It occasionally happens that the scalp is left almost as bare as a billiard ball. This is a serious matter, especially in the case of young ladies. The hair not only forms the natural covering of the head, and protects it from cold and heat, but adds considerably to the personal appearance. A good crop of hair is by no means to be despised. It is to be feared that many doctors consider this is a very trivial subject, and one quite beneath their notice. This is to be regretted, for the result is that advice is sought from hair-dressers and others, who, however good their intentions may be, are necessarily ignorant, not only of the properties of the drugs which they use, but of the structure and functions of the skin which they profess to treat.

Some years ago, in the pages of the *Lancet*, the case was related of a gentleman who, having lost nearly all his hair from a severe attack of fever, consulted a French physician of great reputation as a hair-restorer. His prescription was a drachm of the homœopathic tincture of phosphorus mixed with an ounce of castor oil, the scalp to be rubbed with the preparation three times a week, after having been previously thoroughly cleansed with warm water without soap. This is a most excellent method of treatment, but there are certain accessory measures which might be employed with advantage. In the first place, any short, straggling, or colourless hairs on the scalp should be cut off quite short with a pair of sharp scissors, then a kind of skull-cap should be made of oil silk, so as to fit closely round the head just above the ears. Three times a week a large hot bread poultice should be applied to the head under this skull-cap. The patient should sleep in it, and on the following morning, after the scalp has been washed with warm water and dried with a soft towel, the phosphorus and castor-oil preparation should be thoroughly rubbed in for half an hour. This local application should be combined with the internal administration of phosphorus, a capsule (Pr. 54) being taken every four hours. In obstinate cases it may be some weeks, or even months, before one's efforts are crowned with success. Very frequently the new hair is a shade or two darker than the old.

We may mention incidentally that when the hair has suddenly become grey from excessive grief or mental anxiety, the use of phosphorus both internally and externally will sometimes quickly restore its colour.

Typhoid Fever.—This is a disease which has received many names. It was called "typhoid," and "abdominal typhus," from its supposed resemblance to typhus or gaol fever. In many parts of the country it is known as "low fever," or "slow fever," from its duration, and in other places as "autumnal fever," or "fall fever," from the time of the year at which it is most prevalent. The term "enteric fever" was applied to it from the fact of a certain portion of the bowel or intestine being always found diseased in this disorder. Gastric fever is a misnomer, for there is never any organic disease of the stomach. The name which we have placed at the head of this article is the one most commonly used.

Respecting the early history of typhoid fever we know very little. There is no reason to suppose that it is a new disease, although it is probable that in former

times it was less prevalent than now. For many years it was confounded with typhus fever, and this accounts for our ignorance of its former history. Typhus and typhoid are two totally distinct diseases; in reality, there is very little relationship between them. Typhus fever is far more closely allied to small-pox, measles, and scarlet fever, than to typhoid; and typhoid, in its mode of causation and propagation, bears a greater resemblance to cholera and dysentery than to typhus.

Typhus fever is contagious, typhoid is not. Whoever touches a person suffering from typhus fever runs a certain amount of risk of catching it. Doctors and nurses frequently suffer from this disease, when brought in contact with typhus patients. In Ireland, in the year 1847, no less than 500 medical men, or about one-fifth of the entire number, suffered from typhus, and of these 127 died. During the Crimean War, it is said that more than 80 surgeons died from this disease. In hospitals, unless those suffering from the fever are strictly isolated, it spreads rapidly. In the case of typhoid all this is exactly the reverse. You may spend your whole day by the bedside without running any risk of catching it. Physicians and nurses do not suffer from it more frequently than other people. In our hospitals the typhoid patients are placed in the general wards, and no steps are taken to isolate them, and yet it never spreads from bed to bed. At the London Fever Hospital, in 14½ years, 2,506 patients with typhoid fever were treated, and yet in that time only 8 cases originated in the hospital.

Sometimes typhoid fever may break out in a hospital, but that does not prove that it is contagious. Residence in a hospital does not make you disease-proof. Some ten years ago a number of cases originated in the hospital at Basle. The disease was contracted there, and many people said that it must have been caught from the typhoid patients in the wards. But curiously enough the majority of the cases occurred in people who had nothing to do with the wards, and who had no communication, direct or indirect, with the typhoid patients. For instance, there was a man who had just recovered from small-pox in a ward which had been strictly isolated. He was attacked with typhoid fever immediately on his discharge, and he died from it. It was obvious that it must have been contracted in the hospital. Then, again, the apothecary and the engineer, and several washerwomen and kitchenmaids, who never, by any chance, entered the wards, were attacked in the same way. An examination disclosed the fact that in one portion of the building there was a defect in the drainage, and this, there is no doubt, was the cause of a good deal of the mischief. It was found that there was a wooden pipe running from the roof to the sewer, and this passed close by two of the rooms in which typhoid had most frequently occurred. In the sewer just where the pipe entered there was a fault in its construction. It turned suddenly at a right angle, so that all the refuse matters accumulated at this spot, and the foul gas which they gave off passed up the wooden pipe. Steps were taken to remove the accumulation, and to have the pipes thoroughly and frequently flushed, and from that time there was a considerable decrease in the number of typhoid cases which broke out in the hospital.

Such instances are by no means uncommon. Only a year or two ago one of the largest and most popular colleges in Cambridge was almost decimated by

typhoid fever, for the very simple reason that in its new buildings, which had been erected almost regardless of cost, the pipes had been so constructed that the whole of the sewer system of the town found a ventilating shaft for itself through the bedrooms of the undergraduates. If, then, typhoid fever is not contagious, how does it originate? We know it is not given off from marshes as ague is. At one time it was thought to be due to the decomposition of animal substances, and the term "pythogenic fever," signifying "derived from putrefaction," was accordingly proposed for it. But it is now well known that it is not all decomposing animal matter that will produce typhoid—it must consist of human excrement. And even this is not the whole truth, for the excrement must be derived from a person suffering from typhoid fever. Fresh typhoid excrement is probably harmless, but even the minutest portion of a decomposing typhoid stool will, if taken into the system rapidly, set up the disease. But how, it may be asked, could even the very smallest portion of a decomposing typhoid stool get into our bodies? Who would swallow it? The idea is utterly abhorrent. Unfortunately it is not very difficult, and when we get typhoid we may be pretty certain, horrible as it may appear, that we have been eating or drinking somebody else's excrement. It is generally introduced into the system through the medium of the water. In the country the privy is often built very close to the well. Both are near the house and near each other. No particular precautions are taken to prevent the contents of the privy from soaking into the ground, and they in course of time drain into the well. Nothing very much, however, comes of it; the bad water may cause diarrhœa or may make people ill, but it won't give them typhoid. Let, however, a single typhoid stool be emptied into the privy and the mischief is done. The typhoid poison soaks into the earth, gradually develops there, and after a time manages to get washed into the well. Then typhoid fever breaks out in the house, more typhoid stools are thrown in the privy, more people drink the water and get the disease, and then there is a regular epidemic. Perhaps some wise man comes along, points out the source of the mischief, the well is shut up, and the epidemic is stamped out.

But the worst epidemics have been produced when a whole stream has been infected with the typhoid poison; such cases are by no means uncommon. The infection is easily enough effected when the fields from which the stream or aqueduct obtains its supply are manured with excrement, containing typhoid germs. We can't do better than give an example of the way in which an epidemic may be caused. In one very fatal typhoid epidemic in a town in Germany it was noticed that the fever broke out only in houses supplied with water from a certain aqueduct. Other houses close by, which happen to derive their water-supply from another source, entirely escaped. It was found on examination that a brook which passed through the court-yard of a lunatic asylum in the neighbourhood, and received its sewerage, opened into the aqueduct. It was further found that in the asylum a nurse had recently died of typhoid fever, and that her clothes had been washed in the wash-house of the asylum, and that some of the soiled linen had even been soaked in the brook itself. This was the cause of all the mischief. We should mention in connection with this subject that there is evidence to show that the typhoid poison can be destroyed by boiling the water.

In the year 1873 an epidemic of typhoid fever, in which over 200 people were attacked, broke out in London in the parishes of St. George's, Hanover Square, Marylebone, and Paddington. It was clearly proved that it was due to the contamination of the milk by the excrements of a man who had died of typhoid fever on one of the milk farms. Since this occurrence many people make a point of always having their milk scalded, and it is undoubtedly a wise precaution.

Although typhoid is, in the large majority of cases, caused by taking the poison into the system with the food or drink, there is no doubt that it may originate from the inhalation of the emanations from sewers, &c., containing typhoid stools. The possibility of infection in this manner does not prove that the poison is a gas, and the general opinion is that the infectious agent consists of minute particles suspended in the air.

Typhoid fever is a disease which attacks young people much more frequently than old. More than half the cases occur between the ages of fifteen and twenty-five. It is seen more frequently in men than in women, and, curiously enough, pregnant women and those who are suckling are seldom attacked. Unlike many other diseases, it attacks by preference the strong and the healthy, those who are suffering from chronic ailments usually escaping. It is a disease which is no respecter of persons; the high and the low, the rich and the poor, are all liable to suffer from it; but, at the same time, well-to-do people are far more frequently attacked than their poorer neighbours. From the frequency with which it prevails amongst the higher ranks of society, it would almost seem as if the habits of life, and the varied rich and plentiful diet of the more opulent classes, induced a condition of susceptibility to its influence. The largest number of cases occur in the months of September, October and November. It is probable that fatigue and exposure do much to accelerate an attack, although they are in themselves powerless to cause it.

A person who has once had typhoid fever is not very likely to suffer from it again, but second attacks of typhoid are far more common than second attacks of small-pox, measles, or scarlatina. The immunity conferred by typhoid fever is not very perfect.

We must now consider the different symptoms of typhoid fever. The attacks vary very greatly in severity; in some cases they are so severe that life is almost inevitably destroyed, whilst in others they are so trifling that the physician is left in doubt whether there was any true disease or not. Our description refers to a simple case of typhoid of moderate severity.

In the first place, there are usually certain premonitory symptoms. They are by no means characteristic, but last longer than in most other fevers. The patient has a general feeling of malaise, feels ill all over, is silent and indolent, and complains of weariness and pains in the limbs. The countenance is dull and heavy, the appetite is diminished, and the tongue swollen and furred. Sometimes there is giddiness, and usually headache, especially over the forehead. The sleep is restless and disturbed by bad dreams. Sometimes there are pains in the bowels, and diarrhoea, but not usually, unless purgatives have been taken. After a time fever sets in, often accompanied by frequent chills.

It is not always easy to say when the premonitory symptoms ceased, and the actual disease began. The best method is to consider the day on which the patient first became feverish as the first day of the actual disease. When this point cannot be definitely determined, we may reckon the commencement of the disease from the day on which the patient had to knock off work, or first took to his bed.

In some cases, however, there are no warning symptoms at all, but the disease begins suddenly in all its intensity. The patient is in the midst of his occupation, or is on a journey of business, or perhaps pleasure, when he is seized with headache, shivering, and fever, and is found to be suffering from typhoid.

In the first week of the disease proper the patient is feverish, the skin is hot and dry, and in the afternoons there are sometimes slight chills. The symptoms which were present in the premonitory stage gradually increase in intensity. The headache becomes violent, the pains in the back and joints are severe, and the patient feels very ill, and is usually obliged to remain in bed. On attempting to stand he feels dizzy and tottery. There is a great change in him, the expression of his face is altered, he is silent, unwilling to think, sleepy, and not easily roused. His sleep is disturbed by unpleasant dreams, and when in a condition between sleeping and waking he is apt to wander a little, and to be partly delirious. There is complete loss of appetite, but the patient is very thirsty. The tongue is at first moist and coated, but later on it becomes drier, and the fur disappears, leaving smooth, red streaks. Not unfrequently the nose bleeds freely at this stage. In many cases the bowels are at first confined, the diarrhoea, which is always a prominent symptom of this disease, often not appearing for a few days, or perhaps not till the end of the first week. Just at first there is nothing particular about the stools; they are brown in colour, either thickish or watery, and are passed without pain, and usually without straining. The abdomen gradually becomes swollen, tense, and tender, even on the gentlest pressure, more especially on the right side. The spleen increases in size, just as it does in ague, though not to the same extent. It may sometimes be felt under the ribs on the left side, but as a rule it is not readily made out on account of the swollen condition of the abdomen. The urine is diminished in quantity, unless the patient drinks a great deal, and it is usually of a very high colour.

In the second week the fever continues high and the condition of the patient shows how rapidly he is becoming exhausted. The headache is no longer complained of, and the patient becomes apathetic and drowsy, but does not sleep soundly. He is not inclined for conversation, but in answer to questions usually says that he is very well and ails nothing. He seldom asks for drink, but drinks freely whatever fluids are offered him. All movements are feeble and uncertain; the tongue is put out with difficulty, and only after repeated demands, and when protruded the patient often neglects to withdraw it. The tongue is now dry, red, and cracked, and in speaking is moved with such difficulty that it is no easy matter to understand what is said. The patient usually lies on his back, hardly stirring, except to pick at the bed-clothes and make other feeble movements with the hands; the eyes are half closed and he mutters unintelligibly, especially in the evenings. Sometimes patients exhibit a more irritable mental condition; they are restless; disturbed by

illusions and hallucinations, and speak in a loud voice and gesticulate violently. There is now profuse diarrhœa, there being usually from four to six motions in the twenty-four hours, and often more. The stools are commonly fluid, of a yellow-ochre or drab colour, and have a sickly offensive odour. In general appearance they somewhat resemble pea-soup, to which they are usually compared. After standing for a little while they separate into two layers, the upper a turbid brownish fluid, and the lower a light feathery-looking mass. These stools soon decompose, and if you take a little slip of red litmus paper and drop it in, it will turn blue, indicating that they are alkaline. Some medicines, such as iron, bismuth, lead, silver, and copper, darken the motion, and when these have been taken the stools will be of a dark greenish-brown or blackish colour.

From the seventh to the tenth day the rash usually makes its appearance. It is very slight, and unless care be taken it may be entirely overlooked. The spots are about the size of a pin's head, or even smaller, and are of a pale rose colour. They are few in number, usually not more than from half a dozen to a dozen being seen at once. The total number during the whole course of the disease seldom exceeds fifty. They occur most frequently on the chest and abdomen, and not uncommonly they first make their appearance just where the collar-bone joins the breast-bone. On pressing on them with the tip of the finger they disappear for a few seconds and then gradually return. They appear in successive crops, each individual spot lasting for two or three days and then slowly fading away. On the first day of the rash only two or three spots may be observed, and on the next, four or five fresh ones, and on the following day as many more. If it is desired to watch the progress of any individual spot, it may be readily identified by drawing round it a little circle of ink with a quill pen. It is said that the rash is occasionally absent all through the disease, but if carefully looked for will nearly always be found. Sometimes numerous small transparent spots containing fluid appear on the chest and abdomen. They are known as sudamina, and are caused in most cases by excessive perspiration. They are not of the slightest importance; they occur in the progress of many diseases, and must not be confounded with the characteristic rash of typhoid fever.

In the third week the symptoms continue with undiminished vigour, and even increase in intensity. The patient becomes so weak that he can no longer raise himself, but lies in a relaxed condition in the lowest part of the bed. The stupor may reach such a degree that the greatest difficulty is experienced in arousing the patient. The urine and fæces are usually passed involuntarily. Sometimes, however, the urine is not passed at all, the bladder becomes distended, and the use of an instrument may be required. It is very necessary to watch typhoid patients to see that they pass their water.

During the fourth week there is a change for the better, the temperature falls, the symptoms are alleviated, and evidences of returning interest in life appear. The motions are no longer passed involuntarily, or should this occur the patient is annoyed by it, and expresses his sorrow. The sleep soon becomes more natural, and the patient is refreshed by it. Patients who during the whole course of the disease appear to have suffered hardly at all, and who as long as they could answer always

said they were comfortable, now begin to complain of pain, and awake to a sense of their weakness and utter prostration. The face is pale and very thin and sunken, but still it wears a more natural expression. The tongue becomes moister and more movable, the motions are firmer and less frequent, and the appetite slowly returns. After the thirtieth day, in the majority of cases, no more spots appear, and the fever is over.

Thus the patient slowly passes into a state of convalescence, but his recovery is often hindered by complications, or even relapses. The fever may be readily revived by causes in themselves apparently trifling, such, for instance, as getting out of bed too soon, too early indulgence in solid food, or mental or physical exertion of all kinds. In hospitals patients convalescent for typhoid often have a return of the fever on the evening of the visiting-day if their friends have been to see them. It is to be feared that it is too often due to the surreptitious introduction of articles of food, but in some cases it may arise purely from excitement. The appetite soon returns, and the patient may be ravenously hungry. The first meal of solid food often causes a temporary rise in the temperature. If food is given too early it may produce a rupture of the bowel, and this may occur even after convalescence seems firmly established, particularly if any serious error in diet has been committed. The patient rapidly increases in weight, but it is often very long before he gets well again. Even in uncomplicated cases many months may elapse before the mental and bodily functions are completely restored to their natural condition. It has been laid down as a rule that no man can be considered fit for work for three or four months after a severe attack of typhoid.

We have already mentioned incidentally the elevation of temperature in this disease; but it is necessary that we should enter a little more fully into detail on this point. The course of the temperature is of the greatest value in determining not only the nature of the case, but its probable termination, the existence of complications, and the line of treatment, both medicinal and dietetic, to be adopted. Liebermeister, a very eminent German physician, says:—"The great practical importance of the determination of the temperature is more evident in typhoid fever than in any other febrile disease. It may well be asserted that a rational treatment of typhoid fever, without following the temperature, is not possible; and that any physician who does not make two or more observations of the temperature every day neglects his duty. The common remark, that such observations are applicable to hospital but not to private practice, has been found to be erroneous. To measure the temperature in the rectum, or even in the axilla (armpit), requires so little time that a physician who does not have the requisite leisure can hardly treat such a patient at all. Besides this, nurses sufficiently intelligent to use the thermometer are requisite for any proper treatment of these patients. A physician can really treat his patient better if he only sees him once a day, but has a good thermometrical record kept by the nurse, than if he makes several visits and does not employ the thermometer."

The nature of the disease can in typhoid fever be determined by the temperature alone, although, of course, the fact does not justify us in neglecting other symptoms. If you were to show a physician the chart of the temperature taken twice a day, he

would in most cases be able to tell you if it were typhoid fever from which the patient suffered. In well-marked simple cases of typhoid, the entire duration of the fever is from three to four weeks. This time may be conveniently divided into four periods which we shall speak of as weeks, but each of which may vary in duration from five to ten days.

During the first week the fever gradually and steadily increases in intensity.

During the second week it is constant or stationary — that is to say, the successive morning and successive evening temperatures are almost identical.

During the third week the fever remits, that is, the successive evening temperatures remain the same, but every morning the temperature is a little lower than it was at the same hour on the previous day.

During the fourth week there is a gradual fall in both morning and evening temperature until at last the patient is feverish only in the evening.

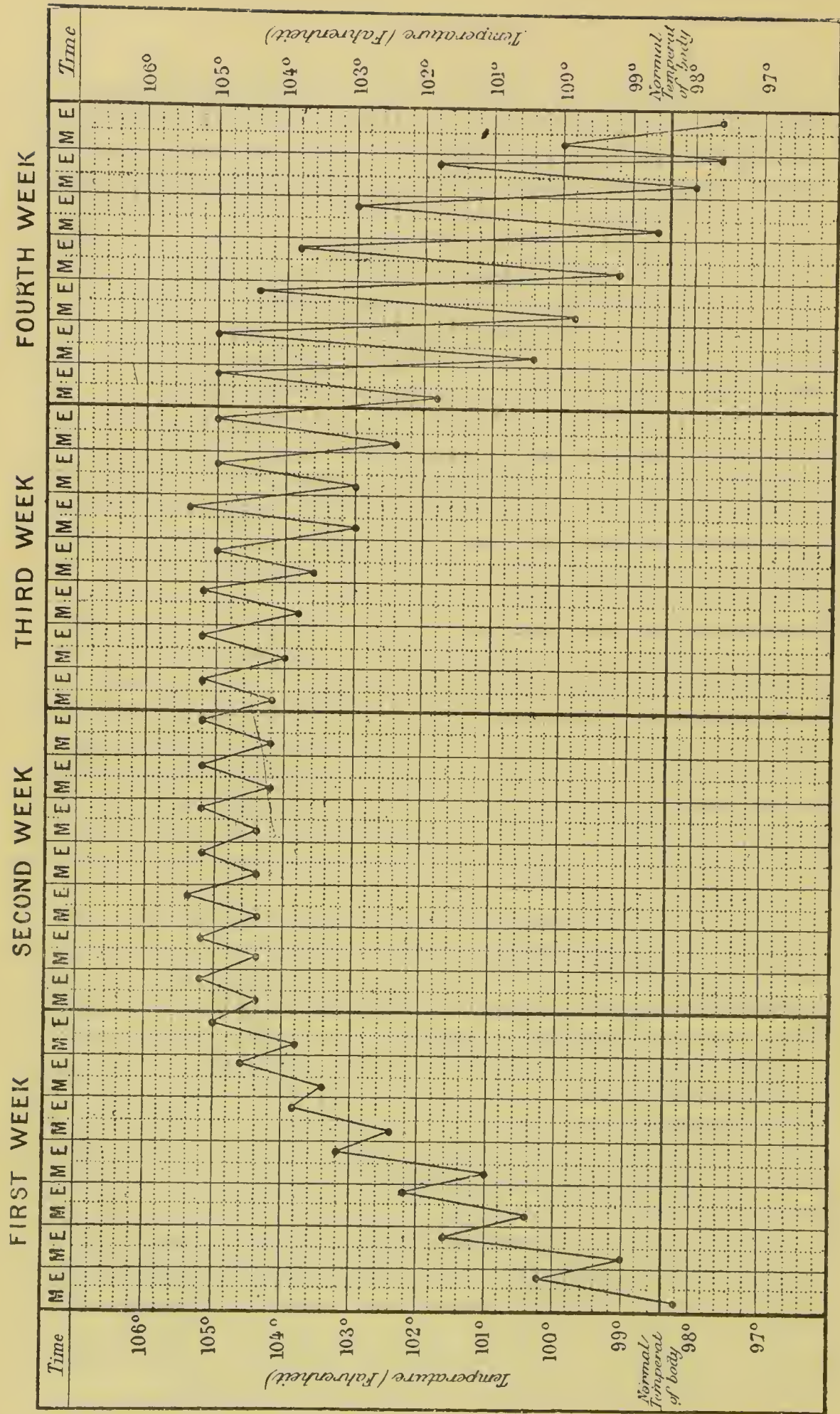
The accompanying chart serves to illustrate these facts. It is not taken from any individual cases, but gives the average course of the temperature in a large number of cases, and is, therefore, to some extent diogramatic. For the sake of simplicity only the morning and evening temperatures are given; but, practically, the thermometer should be employed every four hours.

During the first week the temperature may rise from 98.6° to 104° Fahr. or more. In the third week the morning temperature may be from 4° to 6° lower than the evening. Any marked alteration in the temperature is an indication that some change of importance either for the better or the worse has occurred. Often in this way something is discovered which would otherwise have escaped notice.

The temperature affords valuable information in the diagnosis of typhoid fever. An illness is probably *not* typhoid fever, (1) if the temperature on the first three evenings, or on two of them only, is the same; (2) if on two of the first three mornings the temperature is alike; or, (3) if the temperature on the first two days rises as high as 104° .

As we have already indicated, all cases of typhoid do not run a uniform course. It frequently happens that the attack is so mild that its very existence is recognised with difficulty. It is probable that in these cases a very small quantity of the poison has entered the system, or else that the patient is in some way we do not quite understand protected, or partially protected, from its influence. It would be useless to attempt to describe these slighter forms, as they present very great diversity in their course.

The complications and sequelæ of typhoid fever are very numerous, more numerous, in fact, than in almost any other disease. In typhoid fever there is inflammation, and generally ulceration of a certain portion of the bowel. This condition may give rise to bleeding, and blood may be found in the stools. Sometimes the motions are only just streaked with the blood, but sometimes it is passed in large quantities. When the blood is not passed at once, but is retained for a time in the bowel, it colours the motions black. A considerable loss of blood nearly always causes a sudden fall in the temperature, and the use of the thermometer will often tell us what has happened, and indicate the necessity for prompt treatment, before any blood makes its appearance in the stools.



Sometimes the ulcers will eat their way through the bowel, and allow its contents to be poured out into the abdominal cavity. The bowel is often so thinned by inflammation and ulceration that the slightest force will rupture it. Straining at stool, violent vomiting or coughing, or a sudden change in position, may do the mischief. In some cases it has been found, at the post-mortem examination, that the perforation of the bowel had been caused by the movements of a common round worm which happened to have taken up its residence in that part of the body. The patient often experiences at the moment of perforation a sudden and violent pain which may be so severe as to produce faintness. A condition of collapse usually rapidly ensues, and this may at once prove fatal, although in many cases life is prolonged for a day or two longer. The pouring out of the contents of the bowel usually gives rise to inflammation of the peritoneum, or lining membrane of the abdomen, a condition known as "peritonitis." Peritonitis not uncommonly arises independently of perforation, the inflammation gradually spreading from the bowel.

A cold on the chest is a frequent complication of typhoid fever. Sometimes there is no cough, and its existence is detected only when the doctor examines the patient's chest. Usually, however, there is a cough attended with the expectoration of phlegm. Other and more serious mischief is sometimes detected in the lungs.

After recovery from typhoid the patient is often subject to fainting-fits, which come on whenever he assumes the upright position. Should he fall to the ground this may be sufficient to restore the circulation of blood in the brain; but should it so happen that he cannot fall, as when sitting propped up in an easy chair, the attack may prove fatal.

Bed-sores form a very dangerous complication, which nothing but the strictest attention will avert. The patient should be rolled over on his side, and his back examined every day.

After a severe attack of typhoid fever the hair usually falls off. This ordinarily occurs from the fourth to the eighth week of convalescence, and before it is complete the new hair may be seen cropping up. At first this is crisp and lustreless, but gradually it assumes a natural appearance.

The Registrar-General's reports show that 20,000 people die annually of typhoid fever in this country. As the mortality is about one in five or six, it follows that from 100,000 to 120,000 people must be attacked every year. Medical men entertain no doubt that if proper precautions were taken this disease might be effectually stamped out, and that it would disappear like the plague or ague.

In any individual case it is extremely difficult to arrive at a definite conclusion respecting its ultimate termination. Children bear the disease very much better than adults.

Let us now pass on to the consideration of the means which are at our disposal for the prevention of typhoid fever. Prophylactic measures, if attempted at all, must, to be of any service, be carried out thoroughly.

When a case of typhoid fever is introduced into a community, a town or village for instance, previously free from the disease, there should be no difficulty in preventing it from spreading. The essential point is to thoroughly disinfect the stools. A porcelain bed-pan should be obtained, the bottom of which should be

kept covered every time before it is used with a layer of crystals of blue-vitriol, and immediately after a motion the mass should be mixed with about half its bulk of common spirits-of-salt. These disinfectants may be obtained at any chemist's, and they are so cheap that their cost need never be any bar to their liberal use. In London and other large towns we have no help for it, and the motions must be emptied down the water-closets. The water-closet should be flooded several times a day with a strong solution of carbolic acid, and some should be placed in a dish or pot for constant evaporation. In the country the stools must never be emptied into the privy, or thrown upon dung-hills, or other similar places. A series of deep trenches should be dug at some distance from the house, as far as possible from the well or water-supply, and these should be used for the reception of the stools. A trench should never be used for more than two days, and should be carefully filled up as soon as discarded. Soiled linen should be immediately changed, and at once soaked in water containing Condry's fluid, and thoroughly boiled before the expiration of twenty-four hours.

During the prevalence of an epidemic the greatest attention should be paid to the character of the water. The best mode of obviating danger is to have all the water used for drinking purposes thoroughly boiled. An obvious precaution is to see that the milk is scalded. It should be remembered that the typhoid poison may be received into the system through the agency of mineral water. We have no guarantee that any precaution is taken to ascertain that the water used in the manufacture of the different aerated beverages which are now so largely consumed is pure, or is free from the possibility of typhoid contamination. After the attack is over the bedding should either be thoroughly disinfected or else destroyed.

No person living in a house in which there is a case of typhoid fever should take food without previously thoroughly washing his hands in carbolic acid and water, and using the nail-brush. This is a point of the utmost importance to the immediate attendants on the sick person.

We now pass on to the consideration of the treatment of typhoid fever. It is essential that from the very beginning of the attack the patient should have absolute rest, both of mind and body. Some people are very loth to acknowledge that they are ill, and seem to imagine that the best thing to do is to fight against the disease. They will not "give in," and they strain every nerve, even taking increased physical exertion to "shake it off." This is often done by the injudicious advice of some friend, who, himself being in perfect health, is ready enough to tell the sufferer to "pull himself together" and make an effort, and he will soon be well. Practically, it is found that those who do not rest or obtain treatment until they have been ill for some days, do badly in the long run. Even a very mild attack may, in these cases, imperil the life of the patient, and after the fever is over they creep through a convalescence so long as to be entirely disproportionate to the gravity of the attack. We cannot do better than illustrate the importance of early treatment by reference to a few figures. Out of a large number of severe cases treated in the hospital at Basle, it was found that of the patients admitted before the end of the fourth day only five per cent. died, of those who were admitted between the fourth and the eleventh days

thirteen per cent. died, and of those who were admitted after the eleventh day twenty-eight per cent. died. It has been shown on many occasions that railway-travelling is especially injurious to patients suffering from typhoid fever. Most people when they find they are ill are extremely anxious to get home, and will make every effort to accomplish their object. In the case of typhoid fever they should never be allowed to undertake a railway journey, for it will assuredly produce great prostration, and considerably lessen the chances of a favourable termination.

The patient should be confined to his bed from the very commencement of the attack, and should not be allowed to sit up again until the evening temperature has been perfectly normal for from three to six days, or even longer. It should be remembered that getting up too soon is a fruitful source of mischief, and that patients make the most rapid recovery who pass the whole time of their convalescence in bed. It is very desirable to have two beds close together, so as to give the patient a change, and allow of more thorough cleaning and airing. The patient must never on any account be allowed to walk or step from one bed to the other. He may be lifted carefully in the horizontal position, or what is better, the beds may be so close that the patient can slip or slide from one to the other.

Evacuations both from the bowel and the bladder must be made whilst lying down, by using a bed-pan and urinal. At first many people find a difficulty in relieving the bowels whilst lying on their backs, but it is astonishing what a little practice will do.

It is of the greatest importance that all worry and anxiety should be avoided. The patient may be told that everything is going well, but he must not be allowed to talk about his affairs. Above all, visitors must not be admitted. If you tell them there is fever in the house, they will not trouble you much. As a rule only one person at a time is required in the sick-room. No conversation is admissible, and the patient should not be read to. His questions should be answered briefly, and his wants, both expressed and unexpressed, should be cared for as quickly and quietly as possible. Very much—very much indeed—depends upon the nursing. A good sensible nurse, either professional or amateur, is half the battle. It is not to be supposed, however, that one person can do all the nursing; two at least are absolutely necessary.

The temperature of the sick-room should be rather below that of our ordinary sitting-rooms, and it should never be allowed to fall below 56° Fahr., or rise above 64°. It is very important to keep up a proper system of ventilation. One or more windows should be opened for an inch or two at the top both night and day, and should this cause too great a reduction in the temperature of the room, a good fire must be kept burning. People who have a high fever temperature run very little risk of catching cold.

It is a matter of the utmost importance that the patient should be properly nourished. The fever produces intense thirst, and plenty of fluid should be given. Water, either iced or not, sugar and water, weak wine and water, milk and water, thin barley water, and other similar drinks will be found useful. Effervescing

fluids of all kinds should be avoided, as they distend the bowel with gas and increase the danger of the rupture. The patient is often too apathetic to ask for something to drink, even when suffering severely from thirst. You must never trust to his helping himself, but as long as he is awake should frequently put the glass or feeder to his lips. If he is not thirsty do not urge him to drink.

Next, as to the food. There is no disease in which attention to diet is of more importance than in typhoid fever. Articles of solid food should from the very first be positively interdicted. From the time the nature of the illness is first recognised, or even suspected, until convalescence is thoroughly established, not a single particle of solid food, in any shape or form, must pass his lips. This is a matter of the utmost importance, in fact, a matter of life and death. Not very long ago a sad case occurred in one of our hospitals. A young woman, aged nineteen, was making a rapid recovery from typhoid fever, when her mother came to see her and brought her an orange. Some of the pips were swallowed; one of them perforated the bowel, and in a few hours the girl was dead. Mutton broth, beef-tea, barley water, thin oatmeal gruel, and above all, milk or milk and water, must be relied on for supporting the strength. The amount of stimulant, wine or brandy, to be administered must depend upon the condition of the patient, and also, to some extent, upon his previous habits. As a rule stimulants in any quantity are not needed in the early period of the disease. The strength of the pulse is the best guide, and should it fail, brandy must be resorted to. At first, four ounces of brandy in the twenty-four hours will be enough, but subsequently twice or three times this quantity may have to be administered. It should be given well diluted. For patients who do not like brandy a somewhat larger quantity of port wine may be substituted.

Of course, the attendance of a doctor is indispensable, but so many emergencies may arise in the course of the disease that we have no hesitation in indicating the course of treatment to be adopted.

We know of no specific antidote for this disorder, that is, of no drug which will stop it at any stage of its progress, although, as it owes its existence to a specific poison, it is not improbable that in time one may be found.

Of late years the *Baptisia tinctoria*, or wild indigo, has obtained a great reputation for the power of aborting the disease. It must be given quite at the commencement of the fever, and it is especially indicated when the following symptoms are present:—Hot and dry skin, quick full pulse, furred tongue, headache, great thirst, wandering or delirium at night, high-coloured urine, and usually confined bowels. The influence of baptisia in typhoid is said to be comparable to that of aconite in simple fever. The tincture of baptisia is given hourly in drop doses in about a tea-spoonful of water.

If we cannot cut short the disease we must try and tide the patient over his difficulties. The great danger is lest he should die from the intensity of the fever and the deleterious influence of the high temperature on the tissues. By far the largest number of those who succumb to typhoid fever die from the effect directly or indirectly of the fever heat. Out of 210 fatal cases that occurred in a large hospital during a certain period eighty-six were due to the direct influence of the

elevated temperature, and in the remainder the same influence had a large share in producing the complications or bringing about the fatal result.

It is obviously a matter of the utmost importance to consider what means are at our disposal for the reduction of the temperature of the body. In Germany cold baths are extensively used for this purpose. This is a method of treatment which has as yet been little employed in this country for typhoid fever, but the results have been so eminently satisfactory that it undoubtedly demands our best attention and consideration.

Our ancestors were very fond of taking patients suffering from high fever to the nearest river, and giving them a dip, and it must be confessed that viewed by the light of modern science, their treatment was not by any means bad. The cold bath treatment, as used in Germany, is very simple. For adults the full-length cold bath, at a temperature of about 68° Fahr., is used. The patient is lifted out of bed in a sheet, and then carefully lowered, sheet and all, into the bath. The teeth usually chatter a little at first, but the patient does not mind it so much as one might suppose. The duration of the bath should be about ten minutes, but for feeble persons it may be reduced to seven, or even five minutes. Directly the time is up, the patient is taken out of the bath, rapidly dried with hot towels, wrapped in a warm sheet, put to bed, given a glass of wine, and made to keep quiet. Sometimes the patient is put in the bath at a temperature of 95°, and the water is quickly reduced by the addition of lumps of ice to a temperature of 72° or lower. This latter method is less efficacious than that of which we have already spoken. The cold bath treatment should be commenced when the temperature in the rectum reaches 103°, or, in the case of children, 104° Fahr. The baths, to do any good, must be given frequently. Sometimes, in very severe cases, the bath may have to be given every two hours, and by these means many lives have been saved which with less energetic treatment must have been sacrificed. In the majority of cases, however, from five to eight baths per diem will suffice, the aggregate number during the whole course of the disease amounting to forty or fifty.

It will probably be thought that there must be many objections to this method of treatment, but in reality there are not. Perhaps it will be said that it must be a great shock to the system. Practically this is not found to be the case, it reduces the temperature, and those who have had most experience in this method of treatment are the most enthusiastic in its praise. It may be said, but surely it will drive the disease inwards. This is a purely theoretical objection, for of course the whole body is affected with the disease, the patient is ill, and not any particular part of him. But will it not set up inflammation? No, on the contrary, it is shown by statistics that patients treated with cold baths get inflammation of the lungs far less frequently than those treated by other methods. The trouble given to the attendants is in reality very little. The bath may be used for the same patient over and over again. If placed in the room, or, better still, by the bedside, it will always be ready for use. The patient does not find the cold bath so disagreeable as we should at first sight imagine. We have frequently seen patients with very high temperatures placed in a cold bath, and they rarely gave any indication of discomfort.

Cold packs are sometimes substituted for baths, and they are nearly always used in the case of children. A course of four consecutive packs of from ten to twenty minutes' duration apiece is about equivalent in effect to a cold bath of ten minutes.

Quinine is a drug which is very commonly used for reducing the temperature in typhoid fever. It does very little good when administered in ordinary five-grain doses. From twenty to forty grains must be given to produce any very marked effects. This quantity must positively be taken within the space of half an hour, or at the most an hour. The sulphate of quinine must be administered in powder in seven-grain doses every ten minutes. It is useless to expect much benefit if the dose is divided and the administration extended over a long period.

Liebermeister, of whom we have already spoken as an authority on typhoid fever, says :—

“There are still a good many physicians who have a sort of dread of these large doses of quinine. Where a dose of thirty grains is indicated, they give fifteen, and then try to make up the deficiency by repeating it oftener, say every day or twice a day. No sufficient and satisfactory result need be looked for from such a method. I have given quinine in large doses to at least 1,500 typhoid fever patients, besides hundreds of patients with pneumonia and other diseases. The number of single doses, of one scruple (twenty grains) to forty-five grains, which I have ordered in hospital and private practice, probably amounts to 10,000. And in no single instance have I seen any permanent injury follow which I could attribute to the action of the quinine.”

These full doses of quinine usually produce a loud ringing or roaring in the ears, and partial deafness. In rare cases they may even bring about a state similar to that of drunkenness, with unsteadiness of motion, weakness in the legs, and a decided feeling of discomfort. The temperature of the body falls materially, sometimes even to the normal standard, and soon all the symptoms dependent on the excessive fever are modified. The decline of temperature usually begins in a few hours after taking the medicine, and reaches its maximum in from six to twelve hours after. The first administration of forty grains within the hour should be made in the evening, so that its effects may coincide with the natural daily variation in temperature. It should never be repeated within twenty-four hours, and, as a rule, it should not be given again under two days. Quinine proves as successful in children as in adults. For children under two years old, ten to fifteen grains are required; for those between the ages of three and five, fifteen grains; for those between six and ten years of age, fifteen to twenty-three grains; and for those between eleven and fifteen, twenty-three to thirty-one grains. The use of quinine may be advantageously combined with the cold water treatment.

Sometimes large doses of digitalis are used for the reduction of the temperature, but this method of treatment is not altogether free from danger.

We must now pass on to the consideration of other symptoms which may require treatment. If the bowels remain obstinately confined, a small dose of castor oil may be given. Of course, constipation is an exception, and there is usually diarrhoea. If the purging is moderate, it requires no treatment. Should there be more

than three or four motions daily, the acetate of lead mixture (Pr. 30), to each dose of which ten drops of solution of acetate of morphia may be added, will be found of use, or a starch and opium injection—twenty drops of laudanum to four ounces of starch water—may be employed. Sulphate of copper and nitrate of silver sometimes prove of service in obstinate cases.

When there is frequent copious diarrhœa, with the passage, at times involuntary, of drab or ochre-coloured evacuations, associated with enlargement and tenderness of the abdomen, excessive prostration and thirst, and a nearly imperceptible pulse, arsenic, in the form of the arsenic mixture (Pr. 40), may be employed with advantage. When there is a bitter taste in the mouth, a brown-coated, rough tongue, a stupefying headache and cough, tincture of bryony will usually do good (Pr. 49).

Bleeding from the bowel is a symptom which sometimes requires treatment. When the quantity is very small it will do no harm, but should as much as a table-spoonful appear in the motions at one time it is well to endeavour to check it. A bladder or india-rubber bag containing ice should be placed on the abdomen. Twenty drops of the tincture of perchloride of iron may be given every alternate hour in a glass of water, or a tea-spoonful of the ipecacuanha mixture (Pr. 50) may be given every ten minutes for the first hour, and subsequently hourly. When the bleeding from the bowel is accompanied by suppression of the urine, drop doses of turpentine may be employed.

When there is much pain in the abdomen poultices or hot fomentations are admissible.

When perforation of the intestine takes place the only hope of a favourable issue lies in securing complete rest of the intestines for a considerable time. Opium should be administered in doses of a grain every hour, until the patient falls asleep. A grain of opium is contained in fourteen minims of laudanum, but it is better to use solid opium made up into little pills. The patient should be kept as constantly as possible under the influence of the drug. At first no nourishment of any kind must be given, nothing but a little ice to suck to allay the thirst, and for a long time only the most easily digestible food should be given, and that in the fluid form. The object is to get the opening in the bowel to heal, and this will never take place if food is constantly passing out through it. Under no circumstances must purgatives be given.

To allay the excessive hunger from which many patients suffer during convalescence, and before it is safe to give any solid food, drop doses of tincture of cinchona given hourly may be used with advantage. It does not matter how earnestly the patient may pray for something to eat, he must have no solid food until the evening temperature has been normal, *i.e.*, as low as 98·4° Fahr., for several consecutive days. This rule must be strictly and literally observed. Its infringement would, almost to a certainty, be attended with the most disastrous consequences.

Typhus Fever is a contagious disease lasting from two to three weeks, and characterised by a rash which appears between the third and sixth days. It has received a multitude of names, almost every epidemic resulting in some addition to

the list. It is most commonly known as "spotted fever," "epidemic," or "contagious fever," and "camp fever," or "gaol fever." The terms "malignant fever" or "putrid fever" have been sometimes applied to severe cases.

Typhus attacks people of all ages and both sexes indiscriminately. If we were to rely solely on evidence obtained from death registers and hospital statistics we might imagine that it was very uncommon in children, but this is readily explained if we remember that typhus seldom proves fatal to children, and that in many of our large hospitals people under fifteen are not admitted.

Depressing mental emotions, over-work, and anxiety, by undermining the general health, render the system more susceptible to attacks of the disease. It is supposed by many that during the prevalence of an epidemic the fear of catching the fever, and the consequent depression which it produces, may act as a powerful predisposing cause.

Persons who are under-fed, or who live upon food of an inferior quality, are especially liable to suffer from typhus. Typhus is by no means an aristocratic disease. It seldom attacks the rich and well-to-do, but prefers to associate with paupers and those but little removed from the level of pauperism. It delights in dirt and squalor, and is never so happy as when it can obtain admission to a gaol or work-house. It often breaks out, and always attains its greatest severity, when people are worse off and more badly fed than usual. It is almost always an accompaniment of war and commercial distress, and often follows in the wake of strikes. In Ireland, during the potato famines of 1818 and 1847, typhus raged with the greatest severity, and it is estimated that on each of those occasions more than one-eighth of the entire population was attacked.

Over-crowding is a very favourable condition both for the production and propagation of typhus. Some of our most fatal epidemics have occurred in Liverpool, where in many parts the houses are built back to back in narrow unventilated courts. In Glasgow the mortality from typhus fever in different parts of the town corresponds so exactly with the degree of density of the population that there can be very little doubt that they stand in the relation of cause and effect.

Typhus is essentially a disease of cold and temperate climates, and there is no sufficient evidence to show that it ever occurs within the tropics. Great Britain and Ireland are, and ever have been, the chief seats of the disease. It is most common during the last two months of the year, probably because at that time the poorer classes suffer more from want of food, and display a greater aversion than usual to proper ventilation.

Typhus fever is a distinctly contagious disease, but at the same time tolerably close communication with the sufferer is necessary for its transmission from person to person. For instance, the extension of typhus fever from a hospital to the adjacent houses seldom or never occurs, and in this respect it differs from small-pox and many other diseases of this class. Casual visitors to fever wards are rarely attacked, but nurses, who in the discharge of their duties are brought in very much closer contact with the patients, seldom escape. Doctors in charge of fever patients nearly always catch typhus sooner or later, though, as a rule, much less quickly than nurses. It would appear that dilution with air in a great measure destroys the

activity of the typhus poison. Persons who have once suffered from typhus are rarely attacked a second time. Typhoid fever neither protects from nor predisposes to typhus.

People so seldom fall ill of this fever after only a single contact with a case of the disease that some difficulty has been experienced in determining the time during which the poison may remain latent in the system without making its effects manifest. The period of incubation is probably variable, and is supposed to range from a few hours to several days.

Typhus fever usually begins with headache, loss of appetite, and general malaise. The patient is dull, and out of sorts, and, in spite of a feeling of extreme fatigue, is unable to sleep, and is restless at night. For the first day or two it is often very difficult to say what is the matter with the patient, or to form any idea of what he is about to suffer from. Sometimes the disease begins suddenly with a shivering fit, but this symptom is far less common than at the onset of small-pox and some other acute diseases. For three or four days these general symptoms increase in severity, and are accompanied by thirst, heat of skin, and very great prostration. Typhus patients are usually knocked over by the disease far more quickly than sufferers from typhoid fever or small-pox. A man who has typhus can seldom keep about after the third day, and is only too glad to take to his bed.

As the fever increases in severity the skin becomes hot and slightly reddened, especially about the head and face, and noises in the ears are not uncommon. Sometimes there are symptoms of a cold in the head, and the patient may suffer from sneezing and a slight sore throat.

The appearance of a typhus patient is very peculiar, and is to a practised eye eminently characteristic. The sufferer lies prostrate on his back, with a weary, dull, heavy, absent expression. In fact, he looks very much like a man who has made himself stupid with drink, and is just beginning to recover from the effects of the debauch. In the advanced stages of a severe attack, the patient sinks down in bed, lying on his back, with his eyes shut or half-shut, moaning and too prostrate to answer questions, to protrude his tongue, or make the slightest voluntary movement. Despite this apparent quiet, he passes restless, uncomfortable nights, often broken by delirium. From the very beginning of the fever the tongue is coated, at the onset with a white, and later with a thicker yellow fur, which exhibits a strong tendency to become dry. Thirst is a very constant symptom, so that in many cases the only thing that is really relished is plain cold water. The condition of the bowels varies with different patients, for there may be either diarrhœa or constipation. Even when diarrhœa is present the stools are not at all like those we have described as being met with in the course of typhoid fever.

The rash which is peculiar to and distinctive of typhus fever is known as the mulberry rash. It usually make its appearance on the fourth or fifth day, but sometimes later and occasionally earlier. It comes out first on the backs of the wrists, and about the armpits and navel, but in many cases it covers the whole trunk, and frequently the arms and legs as well. Sometimes in the case of children it appears on the face so copiously as to be mistaken for measles. The rash is usually described as consisting of two portions, between which every conceivable connecting-

link may be found. One is a faint irregular dusky-red fine mottling which looks as if it had its seat some distance below the surface; the other is formed of separate spots of small size and purplish colour scattered over the mottled surface, and looking more or less superficial. These spots are irregularly roundish in shape, and at their first appearance are slightly elevated above the skin. The mottling often exists without the distinct spots, but the spots very seldom without the mottling. From the first to the third day after the appearance of the rash no fresh spots are seen, but each spot, although it becomes less elevated and more dark and dingy, continues visible till the whole rash disappears. During the first three days, typhus spots temporarily disappear under the pressure of the finger, but after that time they remain unaltered by pressure. They usually subside between the fourteenth and twenty-first days, but in fatal cases they remain after death.

It will be important to consider the course of the temperature in this disease. On the evening of the first day of the fever the temperature may be as high as 103° Fahr., and it continues rising until the third day, when it often reaches 106° Fahr., or more. The difference between the morning and evening temperature is less marked than in typhoid fever, it seldom amounting to much more than a degree. The highest temperature is usually reached on or about the fourth day, and then a slight fall takes place. On the seventh day there is commonly a more marked fall, but in severe cases this may be indicated only by the absence of the usual evening rise, or it may even be totally absent. During the second week the temperature rises again, but only for a day or two, and it is rarely so high as in the first week. On or about the fourteenth day there is usually a considerable fall in the temperature, and this occurs even in those severe cases in which there was no fall on the seventh day. In favourable cases the temperature becomes normal about the end of the first half of the third week. The suddenness with which the fever leaves the patient is very characteristic of this disease, the temperature not unfrequently falling as much as three or four degrees in the course of a night. In cases which are about to terminate fatally the temperature remains high, about 105° Fahr., until the last, and very frequently there is a very rapid rise a few hours before death closes the scene.

The duration of an uncomplicated case of typhus fever varies from twelve to twenty-one days. It is extremely uncommon for a relapse to occur. The greatest danger is usually during the second week of the illness, death seldom ensuing before the seventh day. The recovery from typhus is usually very rapid, a wonderful change in the condition of the patient often occurring in twenty-four or forty-eight hours. The *sequelæ* of this disease are very few, especially when compared with typhoid or scarlet fever, and an attack seldom results in any permanent injury to the health.

The mortality in typhus fever, taking the average of all cases, is about ten per cent. In children it is as low as five per cent, but in elderly people it rises to fifty or sixty per cent., or upwards. Bulky, fat people are found to bear the disease badly, and previous habits of intemperance add very greatly to the gravity of the attack. Although people in the upper classes of society seldom catch typhus, yet when they do have it they are said to suffer much more than their poorer brethren.

At the commencement of an attack of typhus fever, a difficulty is sometimes experienced in recognising the exact nature of the complaint, and this difficulty is not always removed even when the rash makes its appearance. The eruption is sometimes, though not commonly, a good deal like that of measles. They both appear about the same day after the commencement of the illness; and in children especially it is often no easy matter to say from which of the two diseases the patient is suffering. The eruption of typhus is of a smaller pattern than in measles, and it seldom assumes a crescentic arrangement. When the rash is much elevated above the skin this is a point in favour of measles, and the same may be said when a cold in the head is a prominent symptom.

There is usually very little difficulty in distinguishing typhoid fever from typhus fever, but as these two diseases were formerly confounded, it may not be uninteresting to compare their most prominent features in a tabular form:—

TYPHUS AND TYPHOID FEVERS COMPARED.

<i>Typhus Fever.</i>	<i>Typhoid Fever.</i>
1. <i>Age</i> .—May occur at any age.	Rare in old people.
2. <i>Social condition</i> .—Occurs chiefly among the lower classes of society.	Occurs as frequently among the rich as the poor.
3. <i>Contagiousness</i> .—Very contagious.	Not contagious.
4. <i>Onset</i> .—Well marked.	Often insidious.
5. <i>General appearance</i> .—Very dull; pupils of eyes usually contracted.	Less apathetic; pupils of eyes usually dilated.
6. <i>Bleeding from nose</i> .—Rare.	Not uncommon at onset.
7. <i>Eruption</i> .—Appears before the seventh day; comes out in a single crop; spots at first not elevated, and may not disappear on pressure.	Does not appear till seventh day; comes out in successive crops; spots elevated, and disappear on pressure.
8. <i>Diarrhœa</i> .—Not common; stools natural or dark in colour, if loose, of a muddy consistence.	Common; stools yellow like pea-soup.
9. <i>Tongue</i> .—Nearly always dry.	May be moist.
10. <i>Duration</i> .—On an average fourteen days; in fatal cases death always ensues before the twentieth day.	On an average twenty-two days; may prove fatal after the twentieth day.
11. <i>Relapses</i> .—Rare.	Not uncommon.
12. <i>Convalescence</i> .—Rapid.	Slow.

Practically one would not need to compare all these different points to distinguish between the two diseases. Usually it is important to consider the nature of the fever prevailing in the town or neighbourhood, and to inquire carefully as to the possibility of the patient's exposure to any source of infection.

At present we know of no means either of curing or shortening the duration of typhus. The symptoms may be advantageously treated, and the patient's strength may be supported through the time of the fever, but we have no means at our disposal for arresting the progress of the disease. It is almost needless to say that

the attendance of a doctor is necessary. The general treatment is not essentially different from that we have already adopted in other fevers.

It is very necessary that the patient should be placed under the best possible hygienic conditions. He should be placed in a large room, with an ample supply of fresh air at a moderate temperature. Cleanliness is absolutely essential, and frequent change of both personal and bed linen is most desirable. The services of a couple of experienced nurses should be obtained. In the case of poor people, living in close crowded rooms, removal to a hospital should be insisted on both for the sake of the patient and his neighbours. Quiet and freedom from anxiety greatly add not only to the patient's comfort but to his chances of recovery. It is a good plan to carefully sponge over the whole body several times a day; and, in many cases, the employment of the wet pack proves beneficial.

In a disease of this severity it is very essential that the patient's strength should be supported by every means in our power. In the early stages of the fever, as long as the appetite remains good the diet need not be restricted, and the patient may have anything he chooses if it is not positively noxious. Soon, however, all relish for food is lost, and the patient will take nothing but liquids and sick-room delicacies. Sometimes the dislike for food is so great that it has to be administered just as if it were so much medicine. The digestive functions are so greatly impaired that only the most nutritious substances should be administered. Beef-tea, mutton-broth, chicken or veal broth, milk, eggs, arrowroot, jellies, and other similar articles will be found useful. A good nourishing soup is made as follows:—Stew two ounces of the best well-washed pearl sago in a pint of water till it is quite tender and very thick, and then mix it with half a pint of good boiling cream and the yolks of two fresh eggs. Blend the whole with a quart of beef essence made by cutting up in small pieces four pounds of lean beef from the sirloin or rump, placing it in a covered saucepan with a quart of cold water by the side of a fire for four or five hours, and then allowing it to simmer gently for two hours. It must be skimmed well, and the mixtures are to be mixed when both are hot. So little is usually taken at a time, that it is necessary to administer something every two hours; and the fact of the patient being drowsy or sleepy should not prevent this from being done. The patient usually suffers greatly from thirst, and he should have plenty of water, lemonade, soda water, cold weak tea, or any other beverage he may fancy. Iced drinks often prove very grateful and refreshing.

The administration of the proper amount of alcohol is a point which requires some judgment. Children rarely require stimulants of any kind, and many adults do very well without them. Alcohol may be advantageously administered in the case of old people, or when the patient has been long accustomed to the free use of stimulants. Its employment is especially indicated when there is great prostration with low delirium and drowsiness, and in cases in which the pulse is weak, or the extremities are cold and blue. It is rarely required before the appearance of the eruption, and proves most useful during the second and third weeks of the disease. In cases in which stimulants are required, a daily allowance of a bottle of good claret, or half a bottle of sherry, would not be excessive for an adult. In

severe cases large doses of brandy may have to be administered. Should the patient take a fancy to beer there is no objection to his having it in moderation. When the food or drink cannot be swallowed, or is rejected by vomiting, it may have to be administered in the form of an injection.

Much may be done to add to the comfort of the patient by treating the most prominent and distressing symptoms. The thirst may often be relieved by the use of acid drinks, such, for instance, as the gentian and acid mixture (Pr. 15) diluted with water. A weak infusion of cascarrilla or orange peel, slightly acidulated with hydrochloric acid, may be used for the same purpose. Raspberry vinegar, too, is a useful drink. Sweet fruits, although at first agreeable and refreshing, should be taken only in moderation, for they are apt to give rise to a disagreeable taste in the mouth, or may even produce flatulence or diarrhœa. There is no advantage in curtailing the amount of water taken by the patient. Small pieces of ice to suck often prove very grateful. The headache, sleeplessness, and delirium are often relieved by small doses of opium—for example, five drops of laudanum in a little water every four hours. When the delirium is very violent, mechanical restraint may have to be resorted to, but this should be avoided if possible. Furious delirium, accompanied by confusion of ideas, throbbing of the temples, and great thirst, is often controlled by the belladonna mixture (Pr. 39) given in tea-spoonful doses, every ten minutes for the first hour, and subsequently hourly. Shaving the head, and the applications of cold lotions, or of a pocket handkerchief moistened with aromatic vinegar-and-water, to the scalp and forehead will often allay the violent and distressing headache. The bowels should be opened daily, but only the very mildest laxatives should be used, as purgatives often set up diarrhœa. Should the bowels be open too freely, some of the remedies of which we have spoken in the treatment of diarrhœa should be employed. Vomiting may be checked by ice, lime-water, drop doses of ipecacuanha wine given hourly (Pr. 50), or perhaps by a blister or mustard poultice applied to the pit of the stomach. The condition of the bladder should be carefully attended to, for in diseases in which the patient is unable to pass his water the use of the catheter may be necessary.

To avoid infection fresh air, efficient ventilation, and cleanliness, are of paramount importance. The attendants on the sick should, as far as possible, avoid inhaling the breath of, or the exhalations from the body of, the patient. Disinfectants, such as chloride of lime, carbolic acid, and Condy's fluid should be constantly employed in the sick-room, but should never be regarded as substitutes for fresh air. At the termination of the illness the room should be thoroughly fumigated, and then whitewashed and re-papered.

Simple Fever, or Febricula.—Occasionally a person may be slightly feverish, and the most careful examination may fail to detect the presence of any other symptom. We speak of these as being cases of simple continued fever or *febricula*, and when the complaint is very transitory we sometimes call it *ephemeral* fever. It is a very trifling complaint, and may be produced by almost any combination of circumstances which lowers the general tone of the system. In delicate susceptible people it may be caused by sudden atmospheric changes, or the prevalence of an unusually

high or low temperature. It may be the result of getting wet through, of exposure to the heat of the sun, of sleeping in damp sheets, or of living in a cold draughty house. Errors in diet, whether in the form of under-feeding, or what is far more common, over-feeding, play a prominent part as exciting causes. Many people suffer from a poor and insufficient diet, but a still larger number owe their temporary ailments to a too free indulgence in the pleasures of the table. Excessive bodily fatigue, excitement, anxiety, and possibly over-work, may produce a transient febrile condition. In the majority of cases febricula is associated with, if not dependent on, some slight functional disturbance of the stomach or chest.

The symptoms of simple continued fever are chiefly those which we have already enumerated as together constituting that condition which we call fever. The complaint is commonly ushered in by a little chilliness, or by chills accompanied by flushes, and this is followed by burning heat and dryness of the skin, a full, quick pulse, a coated tongue, thirst, loss of appetite, high-coloured scanty urine, and constipation. The temperature often rises very rapidly, and may reach 102° or 103° in the course of a few hours. Sometimes there is headache, pain in the loins, or a condition of considerable prostration. These symptoms usually last only a few hours, or at the utmost a day or two, and then rapidly decline, leaving the patient weak but otherwise well. Convalescence may be ushered in by bleeding from the nose, a copious discharge of urine, or even by the breaking out of a few spots at the corners of the mouth.

The treatment of simple continued fever is of the simplest possible description. The patient should keep quite quiet indoors, and should take a thorough rest until his indisposition has passed off. It is not absolutely necessary that he should stay in bed, for he may be on the sofa in his own room covered over with a rug, and pass the time away in reading his favourite authors or skimming through the pages of the last new novel. He should abstain from solid food until his temperature has returned to the normal, and should subsist chiefly on milk, or iced milk and soda water, with an occasional sponge cake or a biscuit or two. Stimulants are not usually necessary, but when the patient is much prostrated, as the result of previous fatigue or anxiety, a couple of glasses of port wine may be allowed in the course of the day. At the commencement of the attack a hot foot-bath, or the wet pack will often do good. Very little medicine is as a rule required. Three or four teaspoonfuls of solution of acetate of ammonia (Mindererus's spirit) may be taken every four hours to favour perspiration, and promote the action of the kidneys.

The drug on which we are accustomed to place the greatest reliance is aconite. The earlier it is given the better. The dose of the aconite mixture (Pr. 38) is a teaspoonful every ten minutes for the first hour, and subsequently hourly. It quickly reduces the intensity of the fever, a fact easily shown by the frequent employment of the thermometer. When there is redness of the face, violent headache, confusion of ideas, throbbing of the temples, and wakefulness, belladonna should be given. The dose and mode of administration of the belladonna mixture (Pr. 39) are the same as for the aconite mixture. In some cases it will be found advantageous to give a dose of the aconite mixture and the belladonna mixture alternately. They should not be mixed, or given at the same time.

When the fever is unusually severe or prolonged, and there is much prostration, a half tea-spoonful dose of the arsenic mixture (Pr. 40) given every hour for six or eight hours will be found serviceable.

When the prominent symptoms are stupefying headache, aggravated by movement, shooting pains in the limbs, a cough, yellow coated tongue, nausea, and constipation, the best remedy is tincture of bryony, given according to Pr. 49.

Remittent Fever, like ague, is due to the action of malaria on the system. A larger dose of the poison is required to produce a "remittent" than an "intermittent" fever. We have already explained the technical use of these terms. In intermittent fevers, as we have seen, the patient is at some portion of the day quite free from fever, but in remittent fever such is not the case; the fever is sometimes less but the patient is never quite free from it. An ague may be converted into remittent fever by continued exposure to the action of malaria, and on the other hand as a patient is recovering from remittent fever the complaint often assumes an intermittent form.

The disease of which we are now speaking is sometimes known as bilious fever, or bilious remittent fever, or as jungle fever. In this country we meet with it only in a very mild form, but it is a formidable disease in many parts of the world. It prevails with great intensity on the western shores of Africa, in the East Indies, in many parts of North and South America, and in the West India Islands.

We need not discuss its mode of causation, as what we have said respecting the origin of ague is, in a great measure, applicable to this disease.

The fit, as in ague, consists of three stages, but here the cold stage is less severe and of shorter duration, and in some of the worst cases it may be altogether absent. The patient usually at first experiences a sensation of nausea with weariness, languor, and lassitude, and complains of oppression at the pit of the stomach. He then feels a certain amount of chilliness, which gradually passes off. The hot stage then commences, the countenance is flushed, the patient complains of rending headache, with excruciating pains in the limbs and loins, the skin is burning hot, and the unfortunate sufferer is restless, and tosses about in bed in the vain search for an easy posture. Vomiting soon begins, and often continues through the disease a distressing and embarrassing symptom. It usually fails to relieve the sense of fulness and oppression at the pit of the stomach, although the amount of fluid evacuated is often very great. When the hot stage has lasted from six to twelve hours, a little moisture breaks out on the brow and neck, and gradually spreads over the body; the pulse gets slower, the skin is cooler, the headache is less, vomiting ceases, and the patient obtains some sleep. There is always a remission every morning, but in bad cases this is the only one that can be distinguished, so slight is the abatement. The disease varies in duration from five to fourteen days. Death rarely occurs before the eighth day, and in most cases under judicious treatment a favourable termination may be hoped for.

This is a disease in which a medical man should be sent for without delay. As, however, it may in many cases be impossible to obtain professional assistance, we will indicate the line of treatment to be pursued. At the commencement of the

attack a purgative pill (Pr. 60) should be given with the view of thoroughly clearing out the bowels. During the cold stage no special treatment is required. If the hot stage be mild, without much headache or heat of skin, no interference is necessary beyond giving the patient iced water, or lemonade, or soda water to drink, or, better still, a little ice to suck.

If, however, the skin is very hot, the headache and pains in the limbs and loins severe, or the patient very restless, cold towels may be applied to the head, and the surface of the body sponged with tepid water. The vomiting is not only very distressing, but rapidly induces exhaustion. Sometimes it may be combated by sucking little lumps of ice, or by the application of a mustard poultice, or a pad of lint sprinkled with chloroform, and covered with oil silk, to the pit of the stomach. A still better plan is to give drop doses of ipecacuanha wine every ten minutes for the first hour, and subsequently hourly, in a tea-spoonful of water. During its employment other medicines and methods of treatment should be suspended.

Directly the remission sets in—that is to say, as soon as moisture appears on the skin, and the pulse is reduced in frequency, a ten-grain dose of quinine (four table-spoonfuls of Pr. 10) should be given. This should be repeated every second hour until thirty grains have been given, or until its administration is interrupted by the access of another fit. If the stomach refuses to retain the quinine, a twenty-grain dose must be injected into the bowel in beef-tea or any bland fluid. It is a golden rule that by some means or other thirty grains of quinine must be taken into the system between the termination of one fit and the commencement of the next. In some very bad cases, it may even be advisable to give quinine at once, and not to wait for the remission; but it is better not to do this unless it is absolutely necessary. The patient's strength must be supported by nutritious food and a judicious administration of stimulants.

HOW TO AVOID FEVER IN HOT CLIMATES.

The following simple rules will, we trust, be of use to emigrants and others living in tropical climates. They are, with a few minor alterations, identical with those drawn up for the guidance of the soldiers serving on the Gold Coast in 1873 :—

1. Avoid needless exposure to the sun, rain, night-dews, and fogs.
2. After being exposed to the sun, bathe the head and face, and if possible the whole body. If wet, change your clothes with the least practicable delay, and rub yourself with a rough towel. If exposed to dews or fogs, take a cup of hot coffee or soup, or a little quinine wine.
3. Avoid stagnant water or such as contains “bush” plants, whether they be dead or living. When possible, use only water which has been filtered or otherwise purified. When at work, cold tea is the best beverage. Rinse out the mouth before swallowing the first draught, and take only two or three mouthfuls at a time. This will relieve thirst as effectually as a longer draught.
4. Avoid all spirits, or other drink offered by natives. All of them are more or less unwholesome to Europeans, and they may be absolutely poisonous.
5. The moderate use of tobacco in smoking may be of use during the prevalence of damp, malarious fogs. In excess, however, it does more harm than good. In no other form than smoking has it any good effect whatever.
6. In regard to food, the more you restrict yourself to a plain, substantial diet, the better it will be for you. If in the bush, carry with you a small supply of pepper, mustard, salt, and an onion. These may often be the means of furnishing you with a savoury repast.

7. To guard against the bites of insects, apply a little lime-juice to the hands and face.
8. In the bush, beware of unknown fruit. Some kinds, tempting in appearance, are poisonous in reality.
9. Cleanliness of person and clothing should be as far as possible observed. The daily use of a tooth-brush and powdered charcoal for the teeth is enjoined. The under-clothing should be changed as often as possible, or if it cannot from any cause be washed, it should be hung up in the sun and well shaken.
10. A respirator, or veil of thin linen, or cotton gauze, worn over the face, may act as a guard against malaria in the bush.
11. Never lie down upon the bare ground, and never in thick grass. In the former case you run the risk of an attack of fever or dysentery, and in the latter of being bitten by snakes, &c. Avoid remaining in the vicinity of newly turned-up soil.
12. Do not believe that you are in any way "proof" against the climate. To believe this will sooner or later prove delusive. You can lessen the risks of illness by due care and precaution, but the attempt to brave those risks will surely and speedily end in your own prostration.
13. The sooner, on being attacked with illness, you can obtain medical treatment, the greater your chances of recovery. If you suffer from headache, dislike to food, chilliness and pains in the back, or from gnawing pain in the stomach and looseness of the bowels, get advice if you possibly can.

Yellow Fever.—This is a disease which is seldom seen in this country, but is habitually present in the seaport towns of the West India Islands, in Africa, and some parts of the coast of North and South America. It seldom occurs at a greater elevation than 2,500 feet above the level of the sea, and whilst it may cause the greatest devastation in plains and valleys, the inhabitants of elevated regions enjoy almost complete immunity from its effects. It is essentially a disease of warm climates, an average temperature for some weeks of at least 72° Fahr. being necessary for its production. The places in Europe most liable to be affected are the southern ports of Spain.

It usually has its origin in regions which are capable of producing ague. It differs from this disease in many respects, but in none more strikingly than in the fact that it is infectious, and is capable of being communicated from one person to another.

Yellow fever is generally said to consist of a single paroxysm. There are certain premonitory symptoms, consisting usually of loss of appetite, of flatulence, and a peculiar watery look about the eyes. There are, as a rule, no distinct rigors, but chills alternating with flushes of heat. The patient complains of headache and violent pains in the back, and suffers greatly from nausea and tenderness at the pit of the stomach. This usually lasts for a day or two, and then vomiting commences. Everything is at once rejected, usually without any effort, and the vomited matter will be found on examination to be tinged with bile or blood—"black vomit." The pain in the abdomen is increased, the urine becomes scanty, and the bowels are obstinately confined. The patient is often very restless, and exhibits an evident derangement of intellect, although he may answer questions coherently. This condition may last from a few hours to two or three days, and is followed by a state of remission. The patient feels much relieved, the irritability of the stomach abates, the skin becomes moist, and the bowels are freely open. In favourable cases this is an indication of convalescence, but too frequently the improvement is of short

duration. A yellow tinge makes its appearance on the forehead, and rapidly spreads downwards over the face, back, and chest, and then involves the whole body. After a few hours the black vomit returns, the pain at the pit of the stomach is aggravated, the patient refuses all medicine and food, complains of excruciating pain in the calves of the legs, and finally becomes delirious.

The usual duration of the fever is from three days to a week, although in some cases death may ensue in a few hours. When the sixth day elapses without the occurrence of black vomit, or suppression of the urine, there is great hope of recovery, but even if all the other symptoms be absent, and only one of these two present, the indications are unfavourable. In many epidemics the mortality is as high as one in three.

In so serious a disease as this, the attendance of a doctor is of course essential, but considering the frequency with which it occurs in places where medical aid is not obtainable, we will briefly indicate the line of treatment to be adopted.

The disease cannot be cured, and all we can hope to do is to guide the patient safely through it. There is little to be done, except to treat the most urgent symptoms as they arise. Quinine, which does so much good in ague, is here useless. Removal from the infected locality is often followed by a marked amelioration of the symptoms. Nothing so quickly and so effectually arrests yellow fever on board ship as running into a cold latitude. The greatest attention should be paid to cleanliness, and during the whole of his illness the patient should be in a large, well-ventilated room. As the bowels are generally confined, a calomel purge (Pr. 61) may be given at the onset of the disease. Drop doses of ipecacuanha, given frequently, will usually check the vomiting, but should this fail, recourse must be had to chloroform, given internally, or to milk and lime-water.

ULCERS. (*See SORES OR ULCERS, p. 516.*)

ULCER OF THE STOMACH.

Ulcer of the stomach probably occurs far more frequently than is usually supposed. It so frequently heals spontaneously, and the patient recovers so quickly, that the true nature of the illness is not even suspected. In post-mortem examinations scars of old ulcers are frequently met with on the inner wall of the stomach. The disease occurs more frequently in women than in men. The majority of cases occur between the ages of twenty and thirty, but the liability to the disease increases as age advances. These statements may at first sight appear to be contradictory, but they are in reality not so, for it must be remembered that there are far fewer people living between the ages of say sixty and seventy, than between twenty and thirty. Allowing for the number of persons living at different ages the preponderance of the disease in the later periods of life is very considerable. The disease is more common among the poorer classes of society, and it occurs most frequently in servant-girls, and pale, anæmic, half-starved, needlewomen. It has been supposed that there is a connection between ulcer of the stomach and arrest of

the menstrual function, although there seems to be some doubt on this point. Cases are indeed recorded of suppression of the menses through cold having been immediately followed by symptoms of ulceration of the stomach. Respecting the causes of ulcer of the stomach we know very little. Many theories have been advanced, but as there is none which is universally accepted, it is needless to enter into a discussion of the subject. It has been thought that moral emotions, bad or insufficient food, excessive indulgence in spirituous drinks, and exposure to extreme cold may act as exciting causes, but this, to say the least, is problematic.

The ulcer is rarely smaller than a fourpenny-piece or larger than a crown; its shape is usually circular or slightly oval, and the edges are often sharp, as if a piece of the tissue had been punched out. Usually there is only one ulcer, but occasionally there are two, three, or even more. These facts are, of course, ascertainable only by a post-mortem examination, for as these ulcers are actually in the stomach, and not on the surface of the body, we have no means by which we could see them during life.

We must now consider the symptoms to which ulcer of the stomach gives rise. None is so constant as pain, and this, unfortunately, is only in very exceptional cases absent. It varies considerably in character and intensity, but possesses no distinctive character. It is usually experienced from a few minutes to a quarter of an hour after eating, and is especially apt to occur after taking indigestible food. It does not cease until digestion is completed, or until the food is rejected by vomiting. It may also be excited by exposure to cold, mental excitement, or severe bodily exertion, and is usually increased by external pressure and by tight clothing. The pain is often felt at the pit of the stomach, or a point a little above this, or it may even be experienced in the middle of the back.

Another symptom is vomiting, which is absent in very few cases. It is almost always accompanied or preceded by pain in the stomach, which is relieved by the vomiting. The vomit usually consists of food in different stages of digestion. Hæmatemesis is much less common, but when blood is thrown up in large quantities mixed with food, it is, with certain limitations, indicative of the complaint now under consideration. Slight bleeding often escapes notice, because the effused blood does not induce vomiting, but passes off in the stools, which are scarcely ever examined unless there is some special reason for so doing. In copious hæmorrhage a portion of the blood always escapes by the bowels as a blackish tarry-looking substance. When hæmatemesis has once occurred it nearly always returns, either because the clot which is formed is dissolved out by the gastric juice, or forced out by the movements of the stomach, or because fresh tissue is opened up by the extension of the ulcer. Small bleedings do not materially disturb the general health, but a copious hæmorrhage may produce fainting, or even death. Nothing is more likely to favour bleeding than the congestion of the stomach, resulting from over-indulgence in food, or some other similar cause.

Dyspepsia, or difficult digestion, as shown by lack or perversion of the appetite, by increased thirst, unpleasant taste in the mouth, weight at the pit of the stomach, flatulence, and eructation of acid fluids, is very common. Notwithstanding these digestive derangements, the nutrition is by no means always

impaired, and the sufferer may for a long time remain fat and plump, so that the serious nature of the illness is apt to be overlooked. When, however, these symptoms go on uninterruptedly for years, as they are apt to do, the sufferer gradually loses flesh and strength, and becomes more and more pale and wasted.

Gastric ulcer is almost invariably accompanied by a confined state of the bowels. It would seem, probably, that there is a kind of sympathy between the stomach and bowels, and that the sluggishness of the latter is induced by the condition of the former. There is often considerable mental depression; in fact, in a disease which usually lasts for months or years, which at every meal reminds the patient of his condition, which is constantly exhausting his strength, causing him violent pain, and disturbing his rest, it is but natural that there should be some depression of spirits.

There are certain complications of ulcer of the stomach which merit a brief consideration. In the first place the ulcer may eat its way right through the walls of the stomach and allow the contents to be poured out into the abdominal cavity. Under these circumstances death nearly always occurs in two or three days from shock. Sometimes by good fortune the ulcer may have become adherent to some other organ, as the liver or spleen, so that when perforation occurs the fluid is prevented from being poured out, and no great damage is done. In exceptional cases perforation is the first indication of the existence of the hitherto latent disease. The occurrence of this condition is indicated by the onset of severe pain at the pit of the stomach, which soon spreads over the whole belly; the abdomen becomes swollen, and there is great anxiety, with rapidly increasing prostration. These indications of the giving way of the coats of the stomach usually occur after a full meal, or perhaps from some sudden exertion, as that produced by vomiting, coughing, sneezing, &c. Another complication is the occurrence of consumption. People who have ulcer of the stomach sometimes become consumptive, but whether these two conditions stand in the relation of cause and effect, we cannot say.

It must be admitted that it is not always an easy matter to distinguish ulcer of the stomach from other diseases. In many cases the nature of the complaint is perfectly clear, but in others it is far from being so. One often meets with pale sickly girls or women who complain of menstrual disorders, and have indigestion, and pain, and tenderness at the pit of the stomach. The great problem to be solved is whether they have ulcer of the stomach, or are only fanciful and hysterical. In any doubtful case it is much better to act upon the supposition that they have the more serious disease—ulcer. This is perfectly justifiable, because in the morbid conditions which are liable to be mistaken for gastric ulcer, the strict diet, and other measures adopted for its treatment are likely to prove, on the whole, beneficial. It is often extremely difficult to distinguish between ulcer and cancer of the stomach; we have considered the chief points of difference between them when speaking of the latter disease. (*See CANCER OF THE STOMACH*, p. 169.)

Ulcer of the stomach is undoubtedly a serious complaint, but the large majority of patients completely recover. It is probable, as we have said, that many cases never come under the care of the physician at all, and that healing occurs

spontaneously. When there is copious bleeding the disease must have progressed deeply, and we consequently feel less sanguine as to the result. The loss of blood is dangerous, moreover, on account of the exhaustion it produces. When perforation occurs we must fear the worst, although the case is by no means hopeless. Severe persistent vomiting, and long tormenting pain are unfavourable signs; they ultimately exhaust the strength, and so impair the prospect of recovery.

We have no specific remedy for ulcer of the stomach. We can no more cure an ulcer by the administration of any one particular medicine than we can mend a broken leg by the same means. The only way in which we can effect a cure is to follow a rational and systematic course of treatment. It must always be remembered that the ulcer will heal by itself, unless prevented from so doing by external causes, and our endeavour should be to place the diseased organ under such conditions that all causes which interrupt the curative process are as far as possible eliminated. This fundamental law of treatment is, however, always violated, unless we make it our first rule to allow no solid food to be taken, or at least none which cannot by mastication be converted into a soft pulpy mass. One of the best articles of diet in these cases is milk. It contains in itself all that is necessary for the nutrition of the body, and has, moreover, the special advantage in the treatment of ulcer of the stomach, that the soft clot which it forms is far less irritating to the ulcerated surface than are other substances, such as hard-boiled eggs, pieces of meat, bread, cabbage, potato, &c. The success which attends the practice of restricting the patient to an exclusively milk diet is very great. The milk should be given in small quantities, rarely exceeding a tea-cupful at intervals of two hours, and in severe cases, where there is frequent vomiting, the amount must be restricted to table, dessert, or even tea-spoonfuls. Long fasting is undesirable, and it is advisable that the patient, if awake, should take the milk at intervals during the night. The milk is often better borne when mixed with a little well-boiled arrow-root or biscuit powder, since its coagulation in the stomach in masses is thereby prevented. The milk should not be taken too hot, but there is no objection to its being tepid, unless, indeed, there is a tendency to bleeding, when of course everything must be cold. Butter-milk may be used as a substitute for milk when it in its ordinary form appears to disagree, or it may be diluted with water, or with soda water which has been allowed to stand till the greater part of the effervescence has subsided. In certain cases the milk is not easily digested, but gives rise to flatulence, acidity, increased pain, and even vomiting. In elderly people milk occasionally fails to nourish, and unless a different diet be adopted emaciation and loss of strength are apt to ensue.

There is another article of diet which is even less likely than milk to inflict injury on the stomach, and that is essence of beef. We append several formulæ for the preparation of this substance.

Essence of Beef, No. 1.—Take one pound of fresh beef, free from fat, and pour over it half a pint of soft water, or rather less; add five or six drops of pure hydrochloric acid, obtained from the chemist's, and half a teaspoonful of common salt. Stir it well, and leave it for three hours in a cool place. Then pass the fluid through

a hair sieve, pressing the meat slightly, and adding gradually towards the end of the straining a little more water. The liquid thus obtained is of a red colour, possessing the taste of soup. It should be taken cold, a tea-cupful at a time. If preferred warm, it must not be put on the fire, but heated in a covered vessel placed in hot water.

Essence of Beef, No. 2.—Take one pound of gravy beef, free from fat and skin, chop it up very fine, add a little salt, and put it into an earthen jar with a lid, fasten up the edges with thick paste, such as is used for roasting venison, and place the jar in an oven for three or four hours. Strain through a coarse sieve, and give the patient two or three teaspoonfuls at a time.

Essence of Beef, No. 3.—Cut up in small pieces one pound of lean beef from the sirloin or rump, and place it in a covered saucepan, with half a pint of cold water, by the side of the fire for four or five hours, then allow it to simmer gently for two hours. Skim it well, and serve.

These are formulæ on which implicit reliance may be placed, but as it is always desirable in these cases to have a variety, we give two others. It must be remembered that even a slight change in the mode of preparation affords appreciable difference in the taste.

Beef Essence, No. 4.—Take one pound of rump steak, mince it like sausage-meat, and mix it with one pint of cold water. Place it in a pot at the side of the fire to heat very slowly. It may stand two or three hours before it is allowed to simmer, and then let it boil gently for fifteen minutes. Skim and serve. The addition of a small table-spoonful of cream to a tea-cupful of this beef tea renders it richer and more nourishing. Sometimes it may be thickened with a little flour or arrowroot, but only in exceptional cases, and when the patient is on the high road to recovery.

Beef Essence, No. 5.—Take one pound of gravy beef, free from skin and fat, chop it up as fine as mincemeat, pound it in a mortar with three table-spoonfuls of soft water, and let it soak for two hours. Then put in a covered earthen jar with a little salt, cementing the edges of the cover with pudding paste, and tying a piece of cloth over the top. Place the jar in a pot half full of boiling water, and keep the pot on the fire four or five hours. Strain off through a coarse sieve (so as to allow the smaller particles of meat to pass) the essence, which will then amount to about a quarter of a pint. Give two or more table-spoonfuls occasionally.

Burrough's Beef and Iron Wine is a reliable preparation, and mixed with water is often retained when everything else is rejected.

With the exception of the essence of beef or milk, and perhaps a little soup containing the white of eggs, or barley water, nothing else should be taken, at least, in the beginning of the treatment. Vegetables, fruits, brown bread, and oatmeal gruel are especially injurious in ulcer of the stomach; we draw especial attention to this fact, because they are often supposed to be perfectly innocuous.

It may be desirable in cases in which the symptoms are severe to give the stomach an entire absolute rest, and to feed the patient solely by injections. The best injection to use for this purpose is what is known as the meat-pancreas injection. It is made as follows:—Take about five ounces of finely-scraped meat, chop it still finer, add to it five and a half ounces of finely-chopped sweetbread free from fat, then add about three ounces of lukewarm water, and stir to the consistence of

a thick pulp. This is given as an enema, care having been taken to wash out the bowel with water about an hour before. In explanation of the name it should be stated that the sweetbread is known technically as the pancreas. By the use of this injection a person can be nourished for a long time without experiencing any sensation of hunger. This somewhat disagreeable mode of treatment has fortunately to be resorted to only in severe cases, although the results are highly satisfactory.

Besides resting the stomach it is very desirable to prevent by every means in our power the long-continued collection of acids in the stomach. This object is usually effected by the administration of Carlsbad salt, which consists chiefly of common salt, carbonate of soda, and sulphate of soda or Glauber's salts. Common salt promotes digestion, carbonate of soda diminishes the excess of acidity of the contents of the stomach, and sulphate of soda aids in their expulsion from the stomach into the intestines. The natural or artificial Carlsbad salt is obtainable from any chemist, and in these cases is best used every morning as follows:—One table-spoonful of the salt is dissolved in a pint of lukewarm water, and of this the patient drinks, fasting, about a fourth part, and repeats this quantity every ten minutes, so as to be about three-quarters of an hour in taking the whole amount. Then he is to wait half an hour longer before he takes his breakfast, which is usually followed by one or two watery discharges. If he have more than two, or none at all, the quantity of salts taken the next day must be regulated accordingly, but the amount of water in which the salt is dissolved is to remain the same—one pint.

For how long should this restricted diet be resorted to? One cannot lay down any absolute rule as regards time, and one has to be guided entirely by the condition of the patient. After a few days the pain and vomiting usually cease, and the healing of the ulcer advances so rapidly that after two or three weeks the patient may gradually return to a more solid diet. At first the greatest care should be taken that the convalescent's stomach is not taxed with the digestion of any food which is not easily assimilable. The following mode of treatment is largely adopted in Germany, and is in strict conformity with the rules already laid down. The patient is confined to bed during the whole course of treatment, and active movements of the body are avoided as much as possible. Hot poultices are applied to the abdomen, or if there is any tendency to hæmorrhage, a bag of ice. During the first few days the Carlsbad salts (a table-spoonful in a pint of lukewarm water) are given every morning. The diet consists entirely of milk and extract of beef, with the exception of a few pieces of rusk, which must not be swallowed until they have become thoroughly softened and masticated. All the food should have a lukewarm temperature unless there are signs of bleeding, when everything must be cold. After from two to three weeks the patient is placed on a light diet, consisting of pigeon, chicken, purée of potatoes, soups, wheat bread, &c., and after eight days longer anything may be taken which is not absolutely indigestible or injurious.

Perhaps it may be thought that we ought to say something with regard to medicinal treatment of this complaint, but if the foregoing directions are carried out in their integrity no medicine will be required. In some cases benefit is derived from the administration of arsenic according to Pr. 40. We would advise our readers

to study carefully the case of vomiting quoted from William Hunter. (*See VOMITING.*) Directions for treating medicinally many of the most troublesome symptoms of gastric ulcer, such as vomiting (*see VOMITING*) and hæmatemesis (*see BLEEDING FROM THE STOMACH*), have already been given.

When perforation occurs—that most disastrous event in the course of gastric ulcer—the measures consist in the administration of large doses of opium (fifteen drops of laudanum in a little beef tea as an enema every three hours) or hypodermic injections of morphia, so as to keep the patient constantly drowsy, absolute rest, abstinence from all food, and hot fomentations, or ice-cold compresses to the abdomen. Under these distressing circumstances the highest possible medical skill should be obtained. Give nothing whatever by the mouth—not even a drop of water—and remember that these cases are not absolutely hopeless, and that whilst there is life there is hope. Should the patient rally, the strength will have to be supported by enemata. The following is a good formula for an injection:—Mix four ounces of extra strong beef-tea, one ounce of cream, and half an ounce of brandy or an ounce of port wine.

Even when the ulcer has entirely healed the patient may require treatment for various sequelæ dependent for their production on the contraction of the scar, or other damage the stomach may have sustained. They will usually be found to assume the form of indigestion, and are best treated by the remedies indicated whilst speaking of that complaint. The patient should be kept upon a light, easily digestible diet for some time after the beginning of the convalescence, the main object being to avoid taxing the powers of the stomach more than is absolutely necessary. It must not be forgotten that relapses in this disease are not infrequent, and caution in the use of food is imperative, even after complete recovery.

People who are supposed to be liable to the formation of ulcer in the stomach would do well to be very careful with regard to what they eat and drink. Pale, sickly young women, who are supposed to have a tendency this way, must avoid taking acids and irritating food, especially when the stomach is empty. They should always restrain powerful and prolonged acts of vomiting, and must by every means in their power endeavour to improve the general condition of the health.

VOMITING.

Vomiting, as we have already seen, is often one of the most distressing symptoms of dyspepsia. It is not unfrequently a concomitant of some of the most serious disorders of the stomach, such as ulcer and cancer. It occurs moreover as a symptom of many other disorders besides those of the stomach. Thus it not uncommonly marks the onset of some of the fevers, such as measles or scarlet fever, and is not unfrequently the first indication of the approaching illness. It is a constant and important feature in inflammation of the brain. It is important to be able to distinguish vomiting arising from disease of the brain from the sickness which accompanies stomach disorder, or we may be in danger of confounding a very grave disease with a mere temporary indisposition. To facilitate the diagnosis we

have arranged the peculiarities which characterise these two forms of vomiting side by side in parallel columns.

Brain Vomiting.

1. There is little or no nausea, and the vomiting continues in spite of the discharge of the contents of the stomach.
2. There is no tenderness over the stomach, and pressure is borne without inconvenience.
3. The tongue is clean, the breath sweet, and the bowels obstinately confined.
4. Headache comes on early, and is a prominent symptom.
5. The stomach is emptied without effort.
6. There is no disgust for food.

Stomach Vomiting.

1. The nausea is relieved, at all events temporarily, by the discharge. It returns directly food is taken.
2. There is tenderness over the stomach, and pressure induces an inclination to retch.
3. The tongue is dirty, the breath offensive, and there are griping pains in the stomach with diarrhoea.
4. Headache comes on after the other symptoms.
5. The vomiting is preceded by retching.
6. There is complete disgust for food.

These statements must, of course, be taken with a certain amount of qualification, but, speaking generally, they are correct. We give the rule, but disregard the exceptions.

Vomiting, and especially morning vomiting, is of frequent occurrence in those who habitually indulge to excess in alcoholic liquors. In the victims of chronic alcoholism, or, to use less refined phraseology, in drunkards, the vomiting usually occurs before breakfast, and is often excited by the act of cleaning the teeth. In women, a common cause of morning vomiting is pregnancy, or some disorder of the womb. In some cases it occurs only in the morning, and is excited by the first waking movements; in others, the vomiting occurs not only in the morning, but frequently during the day, returning whenever food is taken. It may be so severe that the stomach rejects all nourishment, and the patient is quickly reduced to a very critical condition. Sometimes the vomiting is absent in the morning, but comes on later in the day, and increases towards evening. Many women are troubled with nausea and vomiting during the whole time they are suckling. Cases of vomiting are occasionally met with for which no adequate cause can be detected; the food is rejected without pain and without nausea, and sometimes so suddenly that the patient has hardly time to escape from the table.

Next as to the treatment of vomiting. Of late years no remedy has been more extensively employed in the treatment of this complaint than ipecacuanha wine. It should be given in drop doses in a little water three times a day or every hour, according to the urgency of the symptoms. A tea-spoonful of the mixture (Pr. 50) contains a drop of ipecacuanha wine. It is essential that it should be given in the manner here indicated. It often aggravates the mischief if given in larger doses, and seldom succeeds if given with other drugs, or in any other vehicle than water. Ipecacuanha wine is not to be used indiscriminately in the treatment of vomiting; there are some forms in which it acts like a charm, and there are others in which it does little or no good. Fortunately the indications for the use of ipecacuanha in vomiting are perfectly well understood, and for the accuracy

of our knowledge of this subject we are indebted to the untiring industry of one of our most distinguished hospital physicians. In the vomiting of pregnancy ipecacuanha wine is undoubtedly by far the best remedy. When the sickness occurs the first thing in the morning, a dose of the medicine should be given on awaking, and before the patient makes even the slightest movement. When the vomiting is most severe towards evening, ipecacuanha occasionally fails, and then *nux vomica* (Pr. 44) may be employed with advantage. The *nux vomica* and ipecacuanha are occasionally given in alternate doses. In obstinate cases *belladonna* sometimes succeeds. Twenty or thirty drops of the tincture should be administered in water every three or four hours. In the vomiting occurring during suckling, ipecacuanha usually acts like a charm. This mode of treatment naturally fails to give relief when the symptoms are due to displacement of the womb, and then usually nothing but local measures will prove of avail. Morning vomiting sometimes accompanies general weakness, and is met with in convalescents from acute illnesses. This form is readily controlled by ipecacuanha.

The ipecacuanha proves of equal value in many forms of children's vomiting. Thus it will usually remove or lessen the vomiting of whooping-cough, when it is due to the violence of the cough. Sometimes in children the vomited matter is composed of large hard lumps of curdled milk; ipecacuanha does little good in these cases. If diarrhœa is present, one-third of lime-water mixed with the milk is the best remedy; but if the child is constipated, half a tea-spoonful of bicarbonate of soda to a pint of milk will do more good. Should both the lime-water and the bicarbonate of soda fail to afford relief, it may be necessary to withhold milk for a time, and to feed the child exclusively on sopped bread, water gruel, and chicken or veal broth. Young children, often only a few weeks old, suffer from a form of vomiting, the characteristic feature of which is the suddenness of its occurrence. No sooner is the milk swallowed than without any effort on the part of the child it is forcibly expelled, being sometimes shot out through both the nose and mouth. Diarrhœa may co-exist, but more frequently there is constipation. The child may be reduced almost to a skeleton by the continuous vomiting. The best remedy for this complaint is one of the sugar and grey powders (Pr. 71) given every two or three hours.

In children brought up by hand, attention to feeding will often do more than anything to check vomiting. The great point is to dilute the milk. For a child a month old the milk should be mixed with an equal quantity of water. Of this, from a pint to a pint and a half should be taken in the twenty-four hours. As the child grows older, rather less water should be added. The following food will be found useful for children whose digestive powers are weak, or who are suffering from persistent vomiting. Soak a scruple of gelatine in a little cold water for a short time, and then boil it in half a pint of water till it is dissolved; this usually takes from ten to fifteen minutes. Just before finishing the boiling, add milk, with some arrowroot made into paste with cold water, and afterwards some cream. The proportion of milk, cream, and arrowroot will depend on the age of the child. For an infant less than a month old, three or four ounces of milk, a tea-spoonful of arrowroot, and half an ounce of cream, to half a pint of gelatine-water, would be

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